Report
of the High Level Committee
on Konkan Railway Alignment
in Goa

The Goa Foundation
Above Mapusa Clinic
Mapusa 403 507 Goa.

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(Volume I)

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A Note from the Goa Foundation

Over the past seven years of its existence as an independent, registered public trust, the Goa Foundation has, as one of its important activities, published several key documents and reports on Goa in the public interest. The Foundation has based this public service on the fundamental right to information and free speech guaranteed to all citizens by the Constitution of India.

Thus, in the past, the Foundation has published the *Report of the Task Force on Hazardous Industries in Goa*, the *Report of the House Committee on Nylon 6,6*, the *Kamala Choudhury Report on the Konkan Railway*, the *Raunaq Singh Report on Feasibility of Setting up a Free Port* and several other such documents.

It was therefore only natural that several individuals and organizations would approach the Foundation with the request that it also publish the Report of the High Level Committee on Konkan Railway Alignment in Goa.

The report as printed is in three parts. Part III has already been published by the *Navhind Times* and the *Gomantak Times* in their issues dated November 19, 1993.

5th December, 1993

Claude Alvares
Secretary

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** Not included with this copy of the Report.*

Report of the High Level Committee on Konkan Railway Alignment in Goa

PART I

By the decision dated 3rd June 1993, the Government of India, Ministry of Railways appointed a High Level Committee headed by me to go into the question of the Alignment of the Konkan Railway passing through Goa, specially between Mayem and Bali. Following were the terms of reference stated in this letter of the Government of India:

i) To decide upon a suitable alignment for the Konkan Railway, in so far as it lies in Goa (Mayem-Bali) with particular reference to the following:

a) The effect on the eco-system, both with respect to the estuarine and Khazan land areas as well as forest cover;

b) The need to minimise the disruption of human settlements;

c) The need to minimise the effect on archeological and cultural heritage;

d) To provide the maximum social and economic benefit to the State;

e) Technical feasibility;

f) The most economical cost and time frame, taking into account work already done so far.

g) To visit the site;

h) To meet and listen to representatives of aggrieved persons and their viewpoints in the above context.

ii) In arriving at its decision, the Committee shall also consider the previous studies on this issue.

iii) The Committee shall recommend a suitable course of action to Government.

After having been appointed to head this Committee, I directed the Secretary of the Commission to issue a notification and such a notification was issued on 10th of June calling upon all interested persons, whomsoever want to place their views before the Commission. Those notifications were printed to all the local newspapers and also all India papers. Relevant portion of the notification is as under:

"The Committee invites all interested to file their statement of case or representations along with their affidavits and any other documentary evidence on which they want to rely, on any working day between 5th to 8th July, 1993 at the Camp Office of the Committee at 4th Floor, Souza Towers, opp. Municipal Garden, Panaji, Goa. Representations received after the closing of working hours on 8th July, 1993 will not be considered."

By this notification parties were invited to file their representations along with their affidavits on or before 8th of July 1993. It was also indicated in this notification that if they have any evidence the documentary evidence also be filed alongwith these representa-

tions. In pursuance of these notifications number of affidavits and representations were filed. In all 270 representations and affidavits were received on or before 8th of July 1993.

After my arrival in Goa we fixed up a programme of visit respective places on the Rail Alignment so that the site be inspected, the various representatives of groups and persons who have filed their representations and who were interested in either for or against the alignment submitted that they wanted to be along with me on these inspection trips and they also suggested some of the points which will be specially looked into.

I, therefore, intimated them of my programme of these inspection tours on 6th, 7th and 8th of July 1993. According to the programme we started the inspection of the Konkan Railway approved route on 6th of July 1993. On that day, the persons who were interested and who were present along with me, were Mr. M.K.Jos, Monsignor Alberto Luis, Mr. Edgar Ribeiro, Mr. Sarto Almeida, Mr. Urbano Lobo, Mrs. Lumena Almeida, Mr. Raghurai Tamba, Dr. Armand D'Silva, Mr. Anthony Simoes, Dr. Peter Carvalho, Dr. Edmond Carvalho, Mr. Tome Carvalho, Mr. Rodney Almeida, Mr. Mathany Saldanha.

On this day, when we visited several spots, all people represented and clarifications were sought from the KRC people accompanying me on the inspection. They have been noted serially and be taken one by one. Plans or sketches pertaining to the inspection site have been attached where mentioned.

6th July, 1993

1. Margao - Proposed station site

The Commission was briefed about the proposal for New Margao Yard and how the new station has been kept 1.5 km away from the old station so as to avoid traffic congestion on approach roads. The new station has been planned to accommodate the extra lines required after converting the existing MG line to BG.

2. Colva Road Under Bridge, Mughol Village

The proposed new BG line would be laid parallel to existing MG line on West, thereby reducing the requirement of additional land. Only a strip of land about 4m width was required and the structures nearby are not affected.

Mr. Rodney Almeida, a young man from Seraulim stated that Railway may, in future, lay additional lines, which may require extra width of land affecting the houses nearby. It was clarified that no station yard has been planned at that site and that there is no possibility of Konkan Railway going in for additional land.

3. Seraulim Level crossing (Near the Church)

Shri. M.K. Jos and a group of residents nearby represented that due to proximity of the existing MG line there was disturbance to the activities in the church. They felt that the additional BG line where 110 trains per day would run with high speed of 160 kmph would cause further disturbance and it would be difficult to conduct the church activities. Adjacent residential area would also suffer from this disturbance of train running.

It was explained that the maximum speed on the proposed Konkan Railway between Old Goa and Margao would not be more than 100 kmph as per accepted recommendations of Menezes Committee. The number of trains per day would also not be more than 18 each way to start with.

4. Utorda - Level crossing

A group of people led by Father Jose Dias represented that the proposed BG line will divide the village and it would be difficult for people to cross the track to approach their fields lying on the other sides. Similarly, he stated that the Church is on the east of the line

whereas some of the houses are on the west.

Mr. Rodney Almeida represented that the houses nearby had developed cracks due to running of MG trains and with high speed BG trains running more frequently these houses may get further damaged.

He also pointed out that a small shop close to the track has been acquired and compensation paid. He stated that more houses may be acquired when more lines are laid in future.

As desired by the Committee the position with regard to acquisition of land has been verified and it is seen that the small shop of 15 sq.m area is located within 7 m from the centre of existing MG track. This strip was required for the extension of level crossing gate and approach road and has been acquired. A sketch showing the width of land acquired is attached.

5. Cansaulim (Verna yard)

Ms. Martin Sardinha, the Sarpanch represented that Konkan Railway has acquired large area of land for yard at Verna and this yard may develop into a big marshalling yard requiring still more land. She also stated that the fields are within the command area of Selaulim irrigation canal.

The Committee enquired from the Sarpanch how much was the total area of the village and what fraction has been acquired by the Konkan Railway, which she could not furnish readily.

The figures have since been obtained from the Civil Authorities and are attached for every village in Salcete and Marmagoa Talukas.

Mr. Mathany Saldanha stated that there was a proposal for a link to Marmagoa Harbour from this station. This may require more land. Although it is necessary that Marmagoa Harbour should have a BG link, the same should be provided by conversion of existing MG.

A local resident, Dr. Pereira stated that there was possibility of spread of Japanese Encephalitis (JE) due to water stagnation because of Konkan Railway embankment. On being questioned further, he could not satisfactorily explain the basis for his views.

6. Consua - proposed level crossing site.

Mr. Anthony Simoes wanted to know whether the tunnel nearby had been excavated for the full section. On being told that it was only the heading, he mentioned that the floor of the tunnel would be below the flood level and as such would be full of water.

Mr. Tome Carvalho stated that the two irrigation tanks - one in Consua and the other in Cortalim village on the other side would get destroyed by the embankment affecting water supply to the fields.

It was stated that the high flood level of the tank was lower than the bottom of the tunnel and that there was no possibility of flood water entering the tunnel. The Railway embankment would also fill up a small area in the tank in Nauta village and major portion of water storage would remain intact. In Consua village there is only a small tank and the area affected is shown in the sketch. (2 Sketches showing the tanks and the area affected are attached).

7. Vasco Road - Proposed Road Under Bridge site.

Mr. Anthony Simoes stated that about 70,000 truck loads of earth is required for 1 km of high bank on approach to the Road Under- Bridge. Pointing out to the excavation already done in the nearby hill sides he stated that the whole hill may disappear affecting

ground water reserves.

Mr. Edgar Ribeiro stated that the high bank would cover large area of cultivable lands.

It was pointed out that the area near the Road Under-Bridge is covered with tidal water from the creek and no cultivation could be seen around.

8. Zuari - Road Bridge (north bank)

Mr. Anthony Simoes wanted to know the height of the proposed em-bankment on the approach of Zuari River. He explained how the high embankment would cover a large tract of Khazan land which is used for cultivation.

The Committee wanted to know the area available on either side of the embankment and the area covered by the embankment for verification.

A drawing indicating the area of available Khazan land on east and west of embankment different classes of land acquired in each village and total area under the embankment is attached.

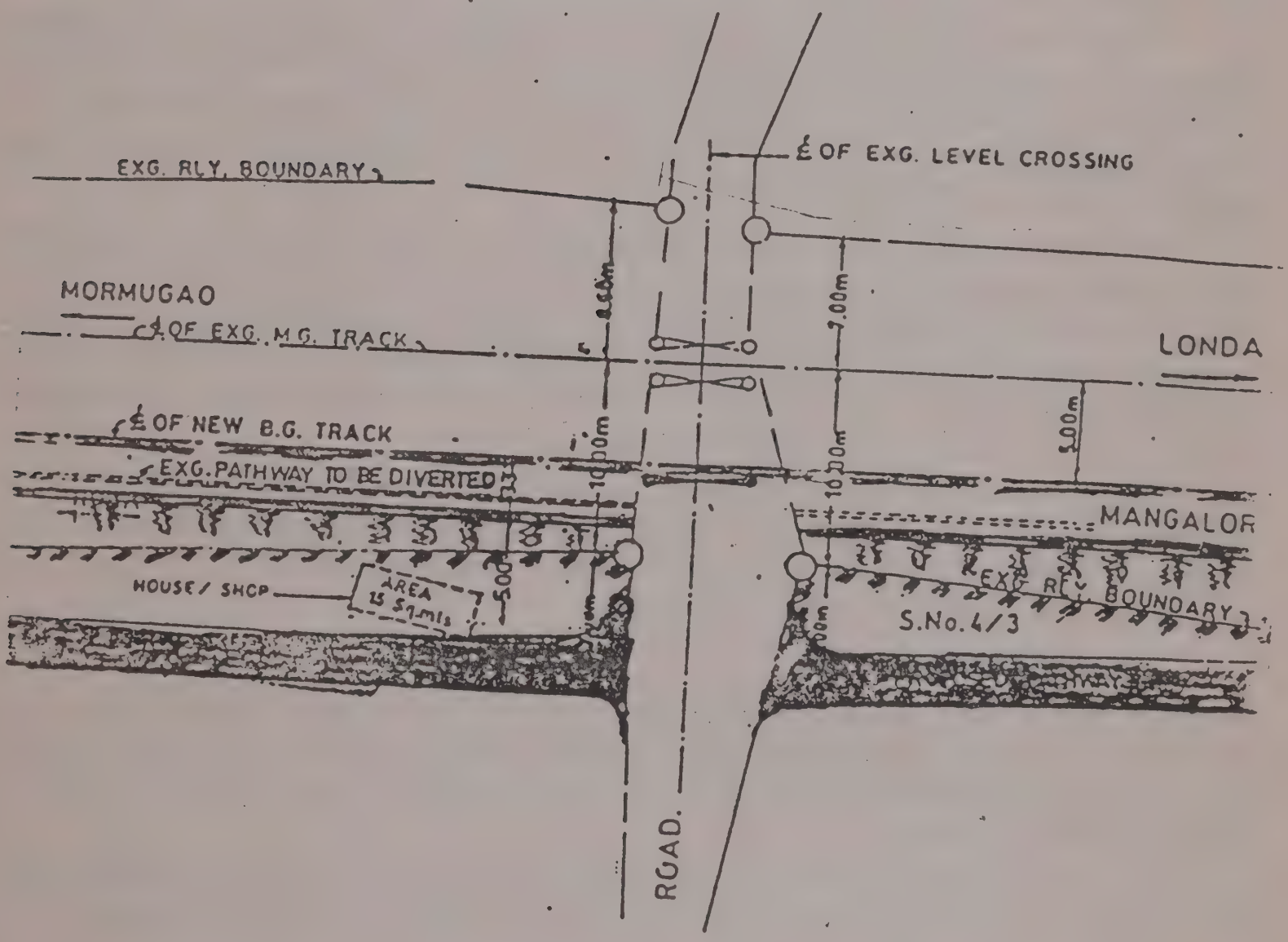
Details of Land Acquired by KRCL in Salcete and Marmagoa taluka

Sl. No.	Name of Taluka	Name of Village	Total Area Ha.	Area Acquired by KRCL Ha.	Percentage Acquired
1.	Salcete	Nagoa	518.0950	12.8130	2.47
2.	Marmagao	Cansaulim	177.1900	6.8976	3.89
3.	Salcete	Utorda	297.3900	4.8315	1.62
4.	Salcete	Majorda	421.5550	0.9040	0.21
5.	Salcete	Calata	165.4100	0.8746	0.53
6.	Salcete	Nuvem	1091.9825	0.2542	0.02
7.	Salcete	Betalbetim	420.6350	0.2632	0.06
8.	Salcete	Seraulim	270.9975	0.3346	0.12
9.	Salcete	Duncolim	116.0575	0.5881	0.15
10.	Salcete	Margao	1520.8264	36.1727	2.38
11.	Salcete	Benaulim	977.3250	0.2703	0.03
12.	Salcete	Davorlim	324.9400	6.3724	1.96
13.	Salcete	Dicarpale	198.8100	3.0015	1.51
14.	Salcete	Sa-Jose-de-Areal	1214.8675	11.6522	0.96
15.	Salcete	Sarzora	659.0900	18.2854	2.77
16.	Salcete	Talvorda	804.9425	3.5885	0.45
17.	Salcete	Veroda	188.5150	3.4962	1.85
18.	Salcete	Cuncolim	1875.1325	15.0995	0.81
19.	Marmagoa	Cortalim	777.1350	18.8579	2.43
20.	Marmagoa	Arossim	315.7675	5.6011	1.77
21.	Marmagoa	Cuelim	465.8300	14.9670	3.21
22.	Marmagoa	Sancoale	1686.5375	3.5231	0.21
			14489.0314	168.6486	29.77

first sketch

UTÓRDA VILLAGE

ACQUISITION OF LAND NEAR UTORDA LEVEL CROSSING



LAND ACQUIRED BY KRCL

PROPOSED PATHWAY IN LIEU OF EXISTING PATHWAY

On 7th July, 1993 when we went on the inspection again those who were present were Mr. Edgar Ribeiro, Dr. Kesavan Nair, Mr. R.D. Khalap, Mr. Ravindra Raiturkar, Mr. Prabhakar Ghotge, Mr. Rallino D'Souza, Mr. Sarto Almeida, Mrs. Lumena Almeida, Dr. Armand D'Silva, Mr. Anthony Simoes.

On this day, we in fact inspected the so called NATPAC Alignment which was passing through the hinterland, discussed in detail in the NATPAC Report. And it was for this reason that in the suggestions of those who wanted Hinterland Alignment, Dr. Kesavan Nair, who was the expert, who has conducted NATPAC assessment and submitted a report was taken by me in our own car so that he could explain all the things and circumstances under which this survey was carried out and he submitted in the report. These notes about various spots along the alignment have been noted and reproduced below.

7th July, 1993

1. Ambalim Road Junction on NATPAC Alignment.

Dr. Kesavan Nair of NATPAC, clarified that he has not carried out any detailed investigation for the technical feasibility or cost-ing of the Midland Alignment suggested in his report. He had merely indicated broad area for a possible alternative route through the midland talukas in order to avoid passing through Khazan lands and reducing the length of bridges over the major rivers.

He was not in a position to guide the Committee and show the ex-act locations along the route suggested by him and stated that it could be done after a detailed ground survey. Dr. Kesavan Nair produced a map of Goa with the proposed alignment marked on it. The route shown was roughly a straight line from Sanvordem to Ponda. Mr. Edgar Ribeiro and Mr. Sarto Almeida disagreed with the route marked by Dr. Nair and stated that towards the north it should be on the west bank of Mandovi river.

The alignment marked as Alternate I in the RITES assessment of NATPAC report, was not acceptable to Dr. Kesavan Nair as according to him he had not identified any particular alignment but had only indicated broad area for further detailed investigation in case the present alignment is to be changed.

2. Tilamol Road

Mr. R.D. Khalap, MLA leader of opposition in Goa Assembly pointed out that the area through which NATPAC Alignment has been shown is within the command area of Selaulim Irrigation scheme. This area he said was also full of settlement and consists of fertile agriculture lands.

He also stated that since the NATPAC report was neither based on any detailed study nor recommended any specific alignment the en-tire report should be discarded.

3. Sanvordem

The party stopped to have a view of Kumarkonda hills but Mr. Sarto Almeida pointed out that the proposed alignment should be located more to the east, even beyond alternate III marked in RITES assessment report.

Mr. Khalap stated that any alignment in this area is bound to go through high hills with dense forest cover and as such would in-volve construction of long tunnels with high cost besides causing degradation of ecology.

4. Kumarkonda station site.

Mr. Prabhakar Ghotge, freedom fighter, represented that any sta-tion at this location would be no use to the people of Goa. Mr. Khalap stated that Railway line through this area

would not serve any purpose as far as Goa is concerned as it will be very difficult to approach such stations which are in dense jungle.

5. Dhabal Junction

Mr. Edgar Ribeiro and Mr. Sarto Almeida represented that the alignment does not pass through this village and that the one suggested by NATPAC was quite away and that they would like to take the Committee to Darbandora, through which the alignment should pass.

6. Darbondora

Mr. Edgar Ribeiro and Mr. Sarto Almeida pointed out that the alignment suggested by NATPAC passes very near Darbondora and is located on the eastern side of Mandovi River. In this way the alignment will be passing through all the midland Talukas of Goa, avoiding Ghat Talukas, except Canacona which cannot be avoided.

Mr. Ghotge stated that the basic idea behind this alignment ap-pears to be that the four coastal talukas in which the party is interested are to be avoided. Mr. Sarto Almeida wanted the Committee to visit Usgao, another point on the suggested alignment to get better idea of the terrain, but the Committee stated that it was not necessary.

Mr. Khalap added that the entire alignment proposed by NATPAC, particularly on the east bank of Mandovi passes through the iron ore deposits and crosses a number of roads from the mines to the loading points along the river and as such should not be feasible. The suggested railway line is also likely to cross deep mines pits and huge dumps of mine rejects all along its length in the mining areas.

On 8th July, 1993 we visited Old Goa which is a historical place in Goa, along with the people. We also visited various places and the alignment which will pass near Old Goa. On this day, the places which we visited and were noted and discussed have been prepared and are as under:

8th July, 1993

1. Old Goa

Church of Bom Jesus was visited. Location of the Railway Alignment is 1300 m away from the church. Crossing of the national highway was also inspected.

A road over-bridge has been planned for crossing the national highway.

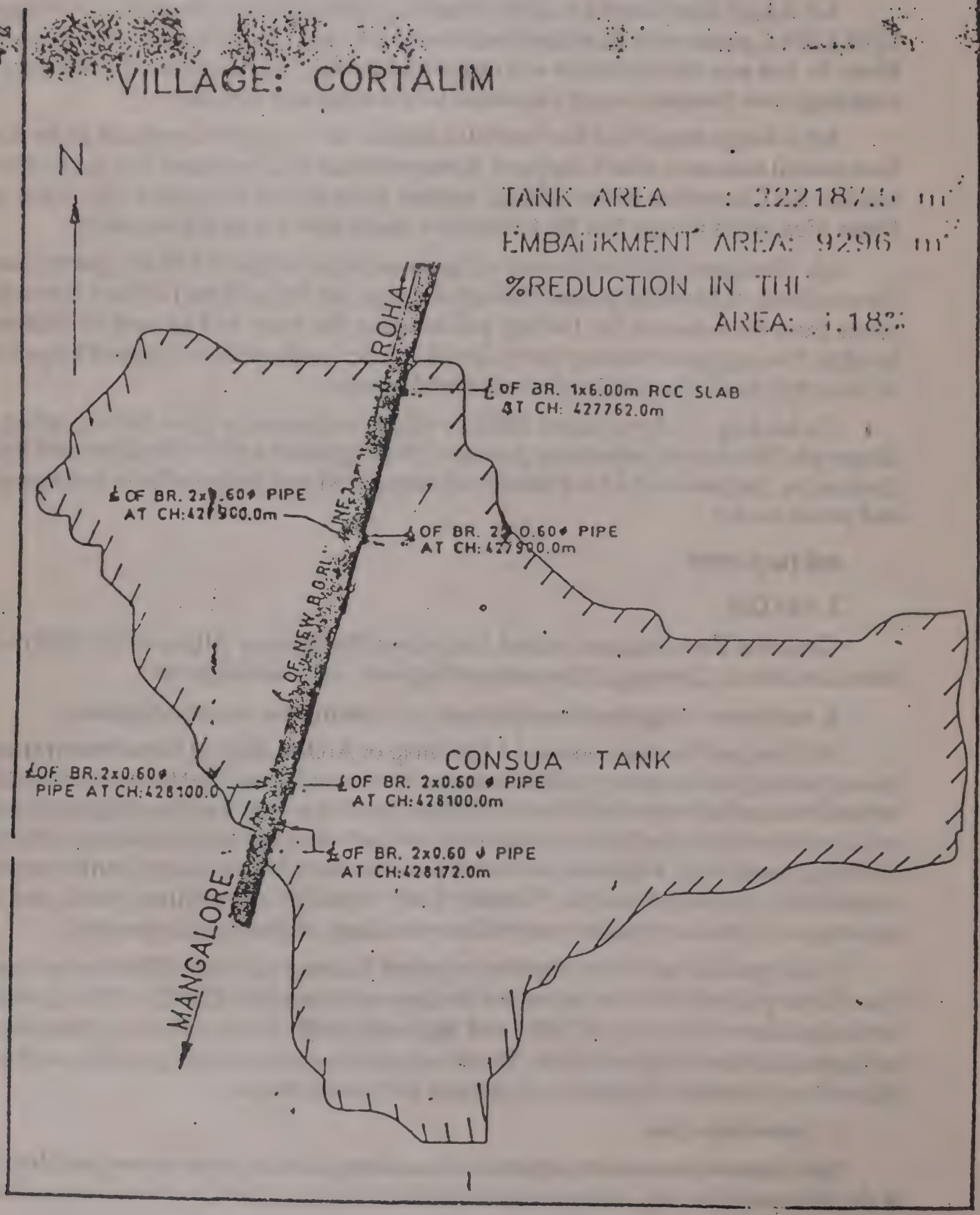
Mr. Percival Noronha showed a 1910 map of Archaeological Department showing the archaeological structures in Old Goa area. He also indicated that the area immediately behind the south abutment of Mandovi Bridge (main channel) is archaeologically important. He showed that the Railway Alignment will adversely affect the heritage structures. On being questioned what is the nature of adverse effect, he could not identify anything in particular, but stated that the "Railway Cult" would promote slums, sheds and other activities not conducive to the peaceful surroundings of the church complex.

It was pointed out to him that the proposed Railway is about 1300m away from the church complex which is the protective heritage monument in Old Goa. The Committee were also shown the maps of Delhi and Agra area, with various Railway lines and the heritage structures near these lines. The structures have been standing and have show no signs of any adverse effect due to proximity of Railway track.

2. Carambolim Lake

The Committee was taken around the lake along the bund from where complete view of the lake could be had. It was explained that the Railway track has been located on the

one sketcch


VILLAGE: CORTALIM
N
TANK AREA : 222187.1 m²
EMBANKMENT AREA: 9296 m²
%REDUCTION IN THE
AREA: 4.18%
ROHA
℄ OF BR. 1x6.00m RCC SLAB
AT CH: 427762.0m
℄ OF BR. 2x0.60ϕ PIPE
AT CH:427900.0m
℄ OF BR. 2x0.60ϕ PIPE
AT CH: 427900.0m
OF NEW R.O.R. LINE
CONSUA TANK
℄OF BR.2x0.60ϕ
PIPE AT CH:428100.0
℄ OF BR. 2x0.60 ϕ PIPE
AT CH:428100.0m
℄ OF BR. 2x0.60 ϕ PIPE
AT CH:428172.0m
MANGALORE

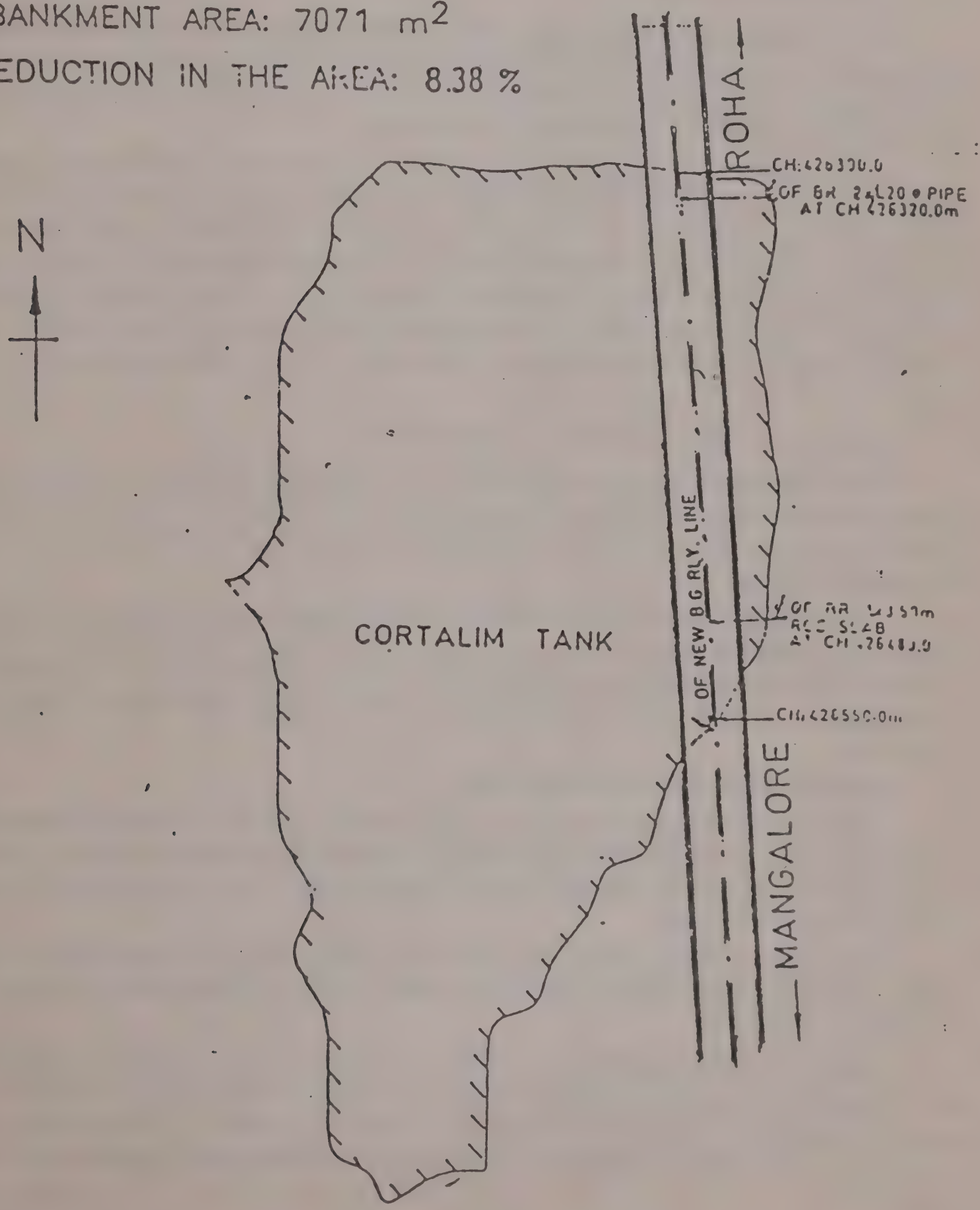
one sketch

VILLAGE: CORTALIM

TANK AREA : 84375 m^2

EMBANKMENT AREA: 7071 m^2

%REDUCTION IN THE AREA: 8.38 %



western extremity of the lake to ensure minimum occupation of lake area with least impact by the Railway embankment.

The local MLA, Mr. Dharma Chodankar stated that there is a colony of poor people located nearby who will be highly benefited by the Railway and requested for provision of a passenger station at this location. He also stated that the lake was only a source of storing water for irrigation of fields on the other side of the bund and that there would be no appreciable loss of storage of irrigation facilities due to Railway track on the western fringes of the lake. No birds could be seen in the vicinity at the time of inspection. The Committee noted that the occupation of the Railway bank on its western edge of the irrigable land did not pose any problem. A sketch showing the lake and the area acquired for the Railway embankment is attached.

3. Mandur Sluice Gate

The Committee was shown sluice gate in the Khazan land to appreciate the operation of the gate closing automatically during the high tide and opening during the low tide due to tidal power and hydrostatic pressure difference. The proposed alignment was show and it appeared that it did not affect the sluice gate.

A local farmer Mr. Joseph Fernandes whose land has been acquired stated that he had readily parted with his land and had got satisfactory compensation and that he had no complaint on any score. He also stated that the proposed Railway would be extremely beneficial to the local residents and he mentioned that the bogey of environment raised by some interested parties who were not the local residents was totally false and politically motivated. He also mentioned that the Railway line in that area would enable cheap transportation and that the availability of consumer items would be ensured at cheaper rate.

4. Chapel De Monte (Old church on top of hill)

The Committee had a close look at the structure which was not in a good condition and appeared to have not been used for some time. The Committee was informed that only once in a year the chapel is visited for a festival and during the rest of the year it is not usually frequented.

The Committee also had a look at the proposed location of the alignment through the tunnel, proposed at about 150m away and at 50m depth. The Committee was also informed that due to soft soil encountered in the tunnel excavation would be done without blasting and that most of the tunnel length would be provided with concrete lining of 50 cm thick.

5. Mandovi bridge site (Main Channel)

The Committee inspected the work already done, i.e. 2 piers and abutment on the south side. The Committee was apprised of the fact that before suspension of work the progress had been substantial and the order for stoppage of work was received when all works were in full swing.

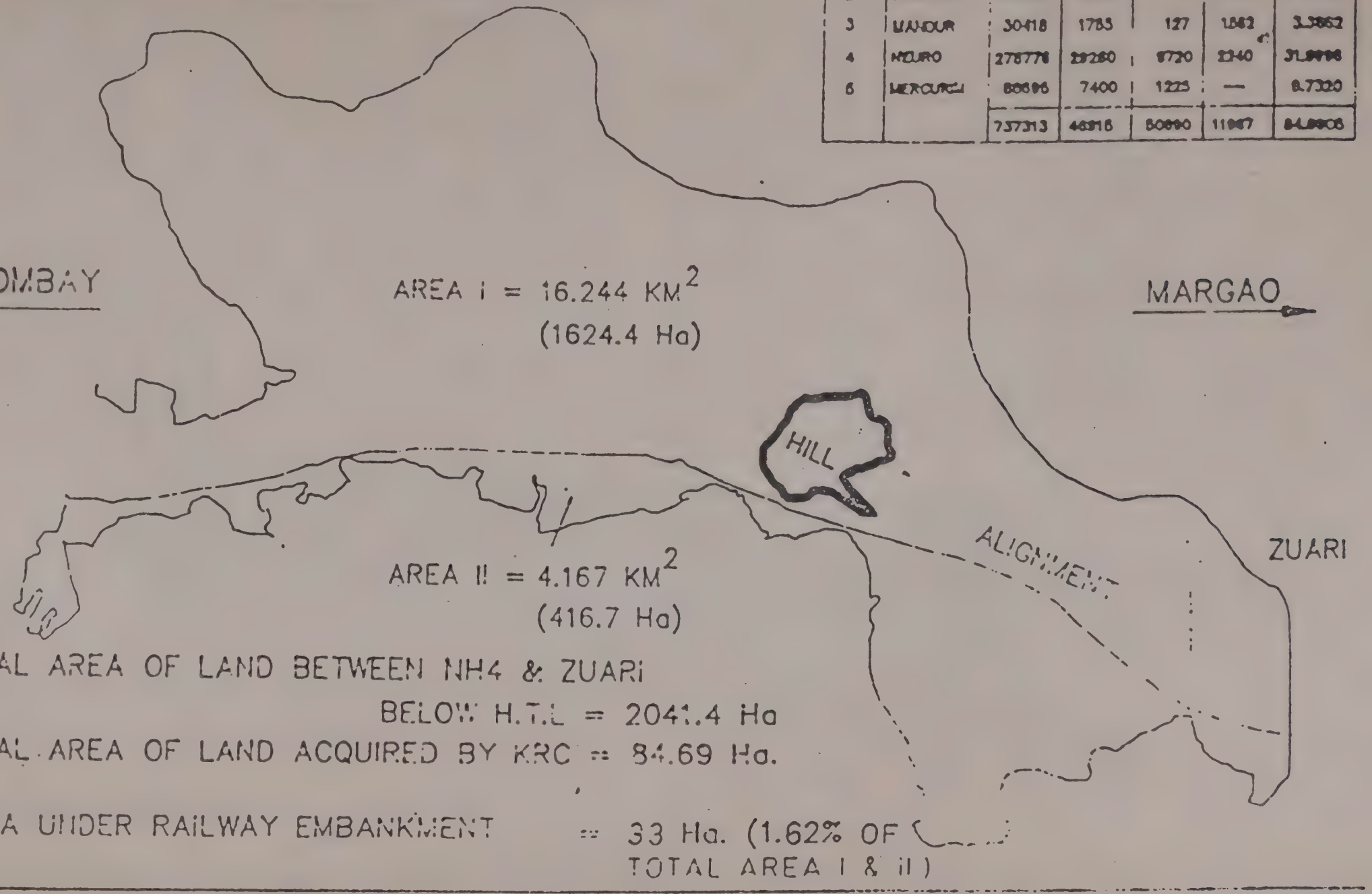
Mr. Anthony Simoes informed that the cost of two bridges on two channels of the river as proposed by Konkan Railway was much more compared to one bridge on the upstream of the river.

At this stage the local MLA, Mr. Dharma Chodankar stated that the residents of Diwar island were eagerly looking forward to the Railway bridge and a footpath along it as proposed. This would end their isolation and dependence on ferry service which is often cancelled due to various reasons. He insisted that the Railway Alignment should not be changed.

NH–4A TO ZUARI

AREA PLOTS ACQUIRED IN DIFFERENT VILLAGES

SL.NO	VILLAGE	CULT. VILLAGE LAND	MUNICIPALITY LAND	GOVT. FOREST LAND	GOVT. LAND	TOTAL AREA IN Ha.
1	CARAMBOLIM	272898	2300	30618	7128	32.1774
2	AZOSSIM	65726	6200	—	1027	7.2953
3	UNHOUR	30418	1785	127	1582	3.3862
4	MOURO	278778	29280	8720	2340	31.9918
5	MERCURCEM	80696	7400	1225	—	8.7320
		737313	46918	80690	11967	84.0805



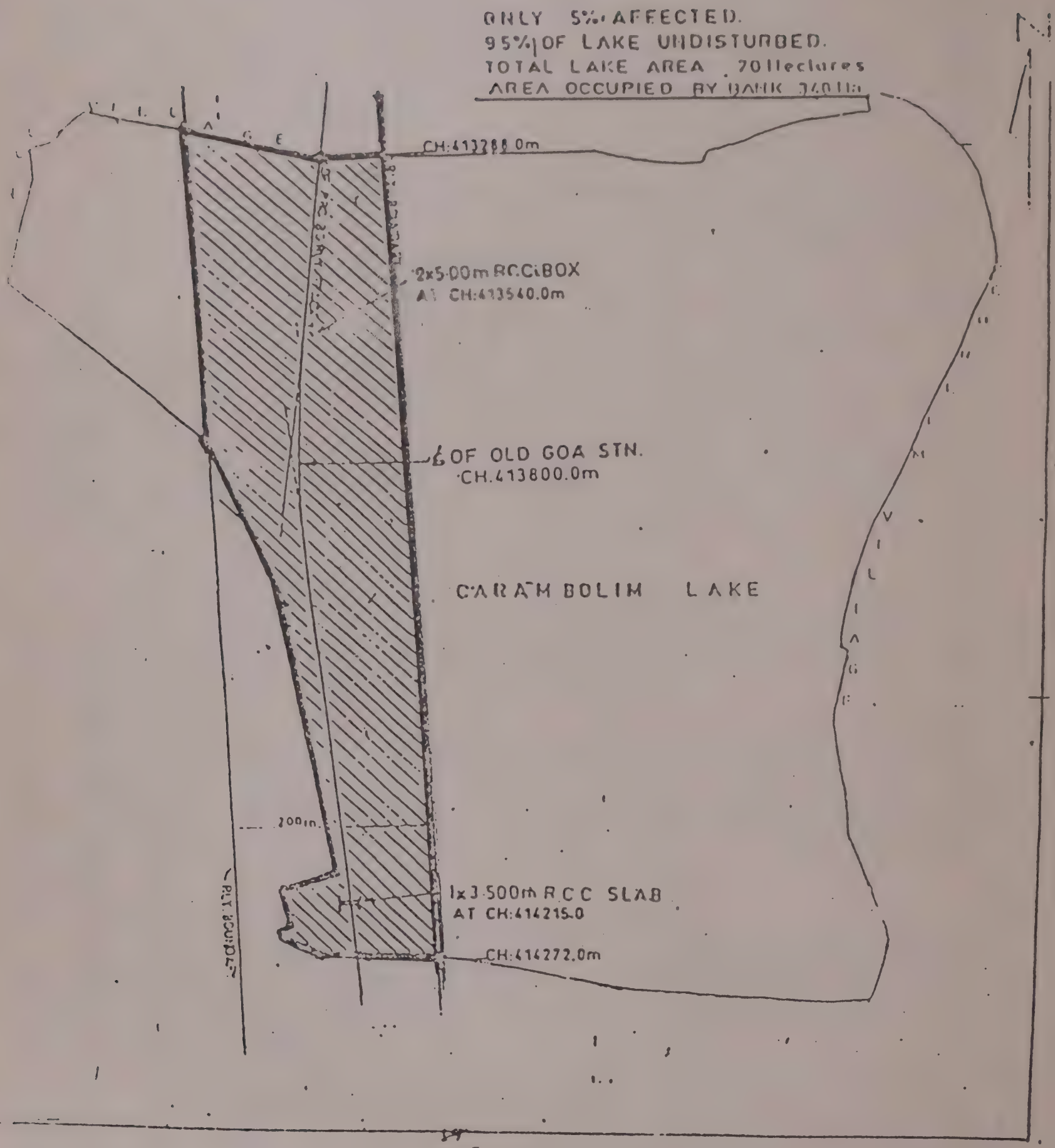
AREA I = 16.244 KM^2
(1624.4 Ha)

AREA II = 4.167 KM^2
(416.7 Ha)

(i) TOTAL AREA OF LAND BETWEEN NH4 & ZUARI BELOW H.T.L = 2041.4 Ha

(ii) TOTAL AREA OF LAND ACQUIRED BY KRC = 84.69 Ha.

(iii) AREA UNDER RAILWAY EMBANKMENT = 33 Ha. (1.62% OF TOTAL AREA I & II)


ONLY 5% AFFECTED.
95% OF LAKE UNDISTURBED.
TOTAL LAKE AREA 701 hectares
AREA OCCUPIED BY BANK 34.01 ha
CH:413288.0m
2x5.00m RCC BOX
AT CH:413540.0m
℄ OF OLD GOA STN.
CH.413800.0m
CARAM BOLIM LAKE
200m.
1x3.500m R.C.C SLAB
AT CH:414215.0
CH:414272.0m

The Committee was informed of the detailed studies/survey undertaken before deciding on this alignment and that the final proposal was most economical under the circumstances. The cost of any single item could not therefore be viewed in isolation.

Mr. A. Simoes wanted the Committee to visit Diwar island but the MLA of Diwar Mr.D. Chodankar informed the Committee that everybody on Diwar island is looking forward to the construction of Railway line and that there were no problems there.

6. Marshel

The Committee inspected the route of the proposed NATPAC Alignment crossing of Mandovi river from the top of high ground. Dr. Kashinath Jalmi, MLA indicated to the Committee that the proposed alignment would have to cross 3 valleys of the river channels and would be passing through settlement areas besides the intervening ridges would have to be negotiated through long tunnels.

On this Mr. Rallino D'Souza pointed out that the NATPAC proposal was not acceptable to them and that they had suggested that the alignment be located on the east bank of Mandovi.

We also carried out an aerial survey of the approved route on 5th July, 1993 by the courtesy of the Flying Wing of the Navy who had provided a helicopter and we would fly over the line under construction, where earth work and other partly constructed works had started and looked into the whole track. It was also specially looked into as to how far this track would pass through the Khazan land area and extent of land acquired and its percentage as compared to the total area of Khazan land available in this part of this State.

After conducting these surveys and preparing the notes as have been detailed above, the public hearing started. Those who had filed their representations and those who, along with their affidavits have filed their representations, were permitted, that if any one of them wanted to appear in the court before the Commission was free to do so. It was also permitted that if they wanted anyone else to be examined that could also be done. In fact, it was indicated to the persons that those who have filed affidavits and representations should come forward to say something which is in addition to what has already been stated in these representations or in their affidavits so that repetition could be avoided, as far as possible. Whenever any one of these persons standing in the witness box had made their statements, parties of those who were permitted, were permitted to suggest questions and those questions which were found relevant were put to the witness and answers were also recorded.

I may also mention that this liberty was given to all those who wanted to appear or to make their submissions before the Commis- sion and this went on upto 12th July, 1993.

Before this hearing was started, it was made clear that the parties were free to suggest questions and no one had any right of cross examination as it is not inter party dispute where rights and liberties of other parties are going to be decided. It is a fact finding affair and it is for the Commission to know the facts necessary and in this way the proceedings went on. It may also be noted here that even those who had not filed their affidavits within the time but filed subsequently, giving reasons for this were accepted, and were permitted even if they wanted to appear and make a submission before the Commission. It may also be made clear that all parties were permitted to suggest questions and sometimes even questions not very relevant but for the satisfaction of the party that the public hearing was fully given to all concerned, were put to these persons who stand into the witness box. And all these statements were recorded and the parties were permitted to even correct these statements and sign them. This went on till there was nobody who had any request to make

either for his own statement or for anybody else's statement and it is in this manner that we concluded our day to day hearing on 12th July and decided to issue summons to some persons who in my opinion were necessary to arrive at some conclusion.

In this regard the point of view taken was that these experts whose reports have been submitted and have been considered by the Government on various respective times and those who although favoured this view or that, but can be described as some kind of technical experts and others who the Commission thought have to be considered. It was also decided that as the State Government has not filed any statement or any affidavit, the decision of the State Government vis-a-vis the KRC and Railway Alignment should also be made here and therefore the Ex-Chief Secretary and the present Chief Secretary of the Goa State were also summoned. It was also decided to summon even the Chief Town Planner because he will be in a position to say how without the proper approval, no objection certificates, could be issued and land acquisition process could be started. We also called upon an expert from the medical department pertaining to the mosquito spreading diseases, as one of the allegations was that because of the Railway Alignment, embankment will be there which will result in water logging and that may add to Japanese Encephalitis (JE) in Goa. In this view persons were selected and summoned.

Following is the list of witnesses who were summoned in the August hearing by the Commission.

Date	Name of Witnesses
09.08.93	Mr.B.N.Desai, Director, Inst.of Oceanography.
	Mr. George Fernandes, Ex-Railway Minister.
	Dr. Edgar Ribeiro, Dir.Gen.INTACH, New Delhi.
10.08.93	Dr. Edgar Ribeiro (contd.)
	Dr.B.F. Ganekar, Chief Med. Officer, NNEP,
	Director of Health Services, Goa.
11.08.93	Holiday
12.08.93	Mr.P.V. Jaikrishnan, Ex-Chief Secretary, Goa.
	Mr.P.S. Bhatnagar, Chief Secretary, Goa.
13.08.93	Mr. Manuel Menezes, Retd. Chairman Rly. Board.
14.08.93	Dr. Kesavan Nair, Director, NATPAC, Trivandrum.
15.08.93	Independence Day.
16.08.93	Mr.K.B. Goel, Gen.Manager (Survey), RITES.
	Mr.V.G. Hiremath, Dy.Gen.Manager (Env.) RITES.
17.08.93	Mr.P.S. Bhatnagar, (contd.)
	Mr.S.P. Deshpande, Env.Planning & Design Consul.,Goa.
	Mr. Pandalai, Chief Town Planner, Goa.
18.08.93	Mr. Pandalai, (contd.)
	Mr.B. Rajaram, ENC(P), KRCL.
19.08.93	Mr.B. Rajaram, (contd.)
20.08.93	Dr. David Stephen, Techno-Vons, Goa.
	Mr.B. Rajaram, (contd.)
21.08.93	Mr.B. Rajaram, (concluded)

When we started with the hearing on 9th of August, although witnesses who were summoned by the Commission were there, Mr. George Fernandes who was the Railway Minister when this project was undertaken appeared before the Commission and requested that he has also filed an affidavit and he wants to state something in respect of this alignment dispute. Under these circumstances, therefore, he was permitted to make his statement and he made his statement. It is also mentioned that he made request before me and all the parties were present and nobody raised any objection because in other opinion, being the Railway Minister who had approved the project when the original scheme was drawn up in the year 1990.

It was, therefore, in the fitness of things that he should be permitted to say something on this and even after his statement, I permitted all suggestions made by any one of the parties and these questions were also put to him.

During the depositions the advocate for the Konkan Railway Realignment Committee (KRRAC) submitted an application with a list of sites for inspection by the High Level Committee. This application was considered on 14.8.1993 and leaving out sites already inspected, it was decided that the Konkan Railway Alignment in Diwar island be inspected. The inspection was carried out on 17.8.93 at 17.30 hours. Following persons accompanied on inspection.

Advocates M/s. A. Kantak, Peter D'Souza others M/s. Raghurai Tamba, Tome Carvalho, Mathany Saldanha, A.P. Remedios, Prabhakar Ghotge.

17th August, 1993.

The observations made during the inspection are noted below.

1. The site of Road over-bridge at Chainage 400.337 was inspected. From this location, either side of the approach bank could be seen for quite some distance alongwith the earth work for a height of about 2m, already done so far. Mr. Kantak with the assistance of Mr. A.P. Remedios, pointed out the following aspects:

i) The high banks on the approaches of bridges over the two chan-nels of Mandovi would require considerable amount of earth work which is not available at Diwar island.

ii) The hume pipe bridges proposed under the embankment would be quite long and require a large number of pipes.

iii) There is a possibility of sinking of the pipe culverts due to the load of the high embankment.

iv) There is a possibility of settlement of embankment in view of the low load bearing capacity of the soil.

v) It has to be ensured that proper drainage takes place through the long pipe bridges.

It was explained by the Konkan Railway officials that:

a) The pipe opening proposed will ensure adequate drainage and proper foundations have been designed to avoid any sinking.

b) Similarly, where bank is more than 8m high, soil stabilisation by providing adequate sand drains have been proposed. In places, where the bank height is less than 8m, additional berms will be provided and the safety of such embankments has been test checked by computer analysis (slip circle method etc.).

The advocate then requested the Committee for inspection of site wherefrom the earth has been burrowed for embankment. This was also inspected and it was noticed that while excavating the hill side, proper terracing has to be provided to avoid any slippage

of side slopes and improve the general landscape of the locality. Selected trees may also be got planted to beautify the area.

It was also felt that openings over water channels where canoes (fishing boats) ply should have adequate clearance over the high tide for canoes to pass without difficulty. An opening of not less than 5m width would be desirable.

During this hearing one more situation arose when Smt. Kamala Chowdhury who was chairing the Committee appointed by the Ministry of Environment and Forest was put to be examined she made a request that she has very urgent programme and engagement and wants to fly back to Delhi and her request, therefore, was that she can appear between 10.00 to 2.00. She is prepared to be here and her statement be recorded. In my opinion, this was enough, but when I asked the respective parties and their advocates they all said that it will not be possible as it will take a long time as she is an important person and under these circumstances as one of the other members of the Committee had already been examined and one more member of the Committee was also to be examined, I permitted her to go and as it was not necessary because other members who had actually done the assessment of NATPAC report and other things in respect of this Railway Alignment were being examined before me. In this way, we proceeded with the hearing of all the witnesses who were summoned by the Commission on 9th, and went on till 21st of August, 1993. Even on 21st of August, 1993 number of questions were being suggested and an attempt was made for postponing of hearing and, therefore, I decided and requested the parties and their advocates to remain till the hearing is concluded and in this respect we went on till about 5.30 p.m. when the hearing could be concluded. I, also after discussing with the respective lawyers, appearing in this hearing decided that by 26th of August before lunch, the parties if they want to make any submissions can submit their submissions in the office of the Advocate General and requested the Learned Advocate General also to collect all of them and in a sealed cover hand over to our persons from the Ministry of Railways who will collect and send them all to me so that before finalising the report I have the opportunity to look into the Submissions which the parties and advocates of the respective parties have to make.

This is a question before me whether the Konkan Railway Alignment as approved at present should be continued or should be diverted.

Witness summoned by me were examined on various dates from 9th to 21st August, 1993.

Mr. B.N. Desai whom we examined is the Director of National In-stitute of Oceanography, Donapaula, Panaji, Goa. He has spoken about the nature of Khazan lands and the functions that are performed in Khazan lands i.e. paddy cultivation and fish culture. He has also stated that only 80 hectares of Khazan lands were occupied by the Railway embankment and out of 18,000 hectares in Goa only 350 hectares will lie on the hill side of the track. He has also spoken about the possibilities and the safe-guards that could be taken to see that no harm is done to Khazan lands and the activities therein.

He, in his statement, has also stated that two Highways in Goa also pass through Khazan lands and culverts made on these Highways lack proper maintenance, which has resulted in stagnation of water which has in turn lead to be the main apprehension from the Railway, on the basis of which it was all the time stated that it will lead to spread of Japanese Encephalitis in Goa.

He also stated that the land occupied by Highways in Khazan lands is a little more than what is being taken by the Railway for this track.

He also stated that in fact with the development of building activities in Goa, a

number of buildings have come up in the Khazan lands themselves and construction of buildings apparently would result in total destruction of the Khazan lands.

Then he referred to Mangroves and stated that because of the Railway track passing through some area some mangroves were damaged. Stating that the mangrove plants will take 3 to 5 years for normal growth, he indicated that Kamala Chowdhury Committee of which he was a member had made a recommendation that wherever they pass through areas where mangroves are damaged, the Railway is expected to replant them so that in about 3 to 5 years the mangrove growth will be restored.

Mr. Edgar Frederick Ribeiro is among the other persons who was one of the members of the Kamala Chowdhury Committee and who was one of those five members who had submitted a separate report. Mr. Ribeiro has been taking keen interest in his capacity as an interested person. In fact, in our inspection also, at a number of places, he had remained present and had made suggestions against the present alignment and pointed out the problems that it will create. Under these circumstances, he was examined even though during the earlier hearings, he had also stepped into the witness box as a person interested who had filed a representation and affidavit also. Mr. Ribeiro himself stated, as for as his qualifications are concerned, is a Post Graduate in Town Plan- ning and Associate of the Royal Institute of British Architects, and as a person who is holding the position of Chairman of the International Commission of Monuments and Sites, and Executive Director of Indian National Trust for Art and Cultural Heritage. He also stated that he was one of the Members of the Kamala Chowdhury Committee. Kamala Chowdhury Committee in fact was ap- pointed by the Minister for Environment. As there were representations by the people that this Railway Alignment is going to cause lot of damage to the environment and therefore the Minister for Environment had appointed a Committee under the Chairmanship of Dr. Kamala Chowdhury. A number of persons were nominated on this Committee to examine the impact on environment due to this Railway track. Mr. Ribeiro could not claim to be an expert of environment nor had he any qualifications about it. He stated that he is the Director of the Indian National Trust for Art and Cultural Heritage but he also stated that in fact he has no qualifications nor has he done any specialised study of archaeology or anything of that kind as regards the heritage monuments.

He frankly accepted that the only heritage monument is an old chapel on a hillock which is expected to have some danger from the Railway track which is passing at a distance of about 150m from the hillock on which this chapel stands, this Railway track will pass through a tunnel. Except this, there is no other heritage monument which will be affected or for which there is any apprehension of it being affected, by the Railway track.

Even as regards this old chapel on the hillock, the apprehension is that during the process of digging up the tunnel or blasting, the vibrations may reach the hillock itself and endanger this chapel, he also admitted that he is not aware whether this chapel is one of the protected monuments and if any notification in respect of this old chapel has been issued.

He also suggested that there is one more area where retrievable heritage monument can be there. It is expected that this area may have something below the surface. It is indicated to be one of the areas through which the Railway track passes. He has stated that there is some restriction about development around such heritage sites and there is a proposal for world heritage structures, it should be 5 kms.

This matter has also been examined and we have a separate statement making the position clear.

Now he had talked about the Khazan area and the softness of the soil and the problems of embankments about which number of people have stated although he does not claim to be an expert in this field either. Then he spoke about the hinterland route which is the alternative route suggested by these people and he is also one of them and he said that no forest area would be seriously affected as much of the forest in the surface mining area has already been degraded and that could be an area which could be used for an alternative route.

As there is a lot of controversy about the Japanese Encephalitis as a result of this track, I had decided to call a medical expert who can say something about it. Consequently we had summoned Dr. B. Ganekar, who was the Chief Medical Officer (Malaria) in the Directorate of Health Services in the Government of Goa for prevention and control of malaria.

He stated that the presence of mosquitoes is the cause for carrying infection of Japanese Encephalitis as well as malaria and filaria. Stagnant non-saline water is the main breeding ground of the mosquitoes which cause Japanese Encephalitis.

He stated that, in carrying out the Railway work if sufficient passage is not provided to prevent stagnation of water and if pits are left along the track, it could result in water collection and stagnation especially of the rain water, which is non-saline. However, if sufficient passage is provided and no pits are left behind there is no special possibility of mosquitoes breeding on account of the Railway track. He expressed the view that since the conditions for elimination of mosquitoes cannot be removed, the mosquitoes responsible for Japanese Encephalitis also cannot be eliminated.

A question was suggested that the passengers travelling in the train will carry the Japanese Encephalitis infection along with them. He frankly stated that it is not only the trains, there are plenty of buses passing through this area where the Japanese Encephalitis's possibility is there and the passengers in the bus can get the infection, the risk is not only to those who travel by train.

Suggestion of these questions indicate the manner and nature of questions which the interested parties were trying to suggest and they are trying to create an impression as if the coming of the Railway train will bring the Japanese Encephalitis infection alongwith the train but it is clear from his evidence and our material that only the mosquito breeding centres are stagnated water which is non-saline, and these possibilities, as from other evidence appears which we also have along the highways, roads, other pits lying here and there and even in the fields where the water stagnation occurs.

I have examined Mr. P.V. Jaikrishnan. He is the Ex-Chief Secretary of the Government of Goa and now Secretary, Local Self Government, Delhi Administration, New Delhi. He was called because we wanted to get on record the stand taken by the Goa Government from the beginning of the plan to set up this Konkan Railway Corporation as he was the Chief Secretary of Goa from 2nd March, 1988 to 4th March, 1992. According to him, in September '90 meetings were held by the Chief Minister Dr. Barboza with Ministers and MLAs on some diversion of the route originally prepared by the Konkan Railway and it was decided to exclude Panaji and Mapusa. In December, 1990 the Goa Government issued a letter confirming it.

In January, 1991 Ravi Naik took over as the Chief Minister of a Congress Ministry and in March, 1991 there was another meeting of other ministers and MLAs with the new Chief Minister who considered the Railway Alignment.

In April, 1991 land acquisition took proceedings were started with minor changes suggested by the State Government and accepted by the KRC.

In July, 1991 Goa Assembly approved the funds to be made available as Goa's share in the KRC and every step was taken to expedite the land acquisition. Land was acquired under Section 17, and Emergency provision in the Land Acquisition Act, as per decision taken by the Chief Minister and Secretary, Revenue because such matters are normally discussed with the concerned Secretary by the Minister.

In July, 1991 there were some objections about the Alignment. In August, 1991 Railway Minister took a meeting with the Minister of State for External Affairs, Mr. Eduardo Faleiro and with MPs, Government of Goa, and representatives of Ministry of Finance, KRC Officers, Officers of the Railway Board and some local dignitaries. KRC was asked to suggest an alternative alignment but the Government of Goa did not agree to change because it involved cost implications.

In October, 1991, Mr. Menezes was requested to go into the question and in December, 1991 the Railway agreed to the modifications suggested by Mr. Menezes.

Subsequent to March, 1991 Mr. Naik's Government granted approval to the route again in September, 1991.

The Town and Country Planning Board had its meeting sometime in March, 1991 and gave a general clearance authorising the CTP to issue NOCs in the case of land falling along the alignment. The route approved by the Town and Country Planning Board was the present route in which there were minor modifications after that. The route which was approved by the Town and Country Planning Board in March, 1991 was the present route on which No Objection Certificate were granted and proceedings for acquisition were started.

It appears that there were objections and some people wanted the matter to be considered further as a result of which the Railway Board ultimately decided to request Mr. Manuel Menezes, a very Senior Retired Officer of the Railway to go into the question. Mr. Menezes was an old man who had also been the Chairman of the Railway Board, having worked for the Railways in India, Iraq, Nigeria, Philippines and had also been the Secretary (Defence Production) in the Ministry of Defence for two years. He was requested to examine the matter and submit his report.

In view of this, he was also summoned by me and in his deposition he has stated that having accepted the request of the Railway Board for examining the Railway Alignment in Goa, he inspected the Hinterland route and the approved KRC route and also held discussions with Urban Lobo, Msgr. Luis, Mr. Rallino D'souza, the Directors of Industries and Agriculture as well as the Geologist of the Goa Government. He examined the alignment suggested by the architects which he has marked as AA and the alignment modified by KRC of the architects alignment to suit the technical parameters as BB. Both these alignments, i.e. the two alternatives suggested were crossing the iron ore loading points where iron ore is loaded into the river barges, so AA and BB Alignments were not considered to be suitable. He then considered an alignment CC in the hinterland trying to avoid the iron ore points and the wild life sanctuaries. He also considered the alignment suggested by Mr. Urban Lobo, DD and yet another alignment which was suggested by the Geologist. All these routes were examined and not found suitable except CC which could be feasible but which would cost much more than present Konkan Railway Alignment. The conclusions reached by him were that the most suitable alignment was the one suggested by the Konkan Railway Corporation except between Margao and Bali which was passing through inhabited areas and would involve demolition of houses and constructions of road over-bridges which would interfere with the landscape and site of the area.

He, therefore, suggested that inspite of the higher cost involved on account of the two

extra tunnels, this alignment should be shifted eastwards in uninhabited area not involving demolition of houses. He discussed the report with Mr. Faleiro, but he was not satisfied with his recommendations. The other persons with whom he discussed the report as suggested by Mr. Faleiro, also did not agree with his approved alignment.

He also stated that clearances of Mandovi and Zuari bridges were fixed on the recommendations of the navigational authorities, the details of some of the clearances are mentioned in his report based on the details provided by the Konkan Railway Corporation. He has not gone into the details of design, location of piers, etc., as the job assigned to him did not necessitate it.

According to him the paddy fields are preferable for locating any Railway line rather than the foothills, since it will be much cheaper. As regards Khazan lands are concerned, he stated that the matter has been discussed in his report and suitable measures have been recommended. As regards Carambolim lake, the alignment is entirely on the west side and does not affect the rain water in the lake and wherever necessary, sufficient openings have been provided.

He categorically stated that no Government officer from the Goa Government or from any other Government objected to the present Konkan Railway approved alignment because it was not in accordance with the Regional development plan. The present alignment is also more advantageous for connecting the Marmagao port as compared to the other alignments.

Mr. Kesavan Nair, Director, National Transport Planning and Research Centre, Trivandrum was examined because his report known as NATPAC report was always suggested to be the best for the hinterland route. Those who opposed the present Konkan Railway Alignment always stated that this is the best report and NATPAC report should be accepted. Mr. Kesavan Nair not only were examined and summoned by me, for a statement but during the spot survey, he was accompanying me, when we went along the area where the NATPAC report suggested by him was examined by us. Mr. Nair has been in the Public Works Department of Kerala State. His experience was of roads. He was the Chief Engineer for National Highways for two years and then Engineer-in-chief in Public Works Department. Later on he became Director of NATPAC. He is the director of 3 or 4 other organisations in Kerala. He is supposed to be an expert for technical evaluation of projects. He was one of the Members of the Kamala Chowdhury Committee of the five Members whose report is a dissent report, as described. He was one of them and in fact he is the author of it.

According to him, KRC and the Goa Government did not co-operate with the Committee. The Committee did not conduct any survey but they went along the KRC route and also the other possible areas where an alignment could be thought of. No technical survey of any of the routes was carried out. As KRC did not make available any details he had to depute his experts from NATPAC to collect whatever details they could and he has based his assessment on that information. He advised the Kamala Chowdhury Committee that three things are necessary for proper evaluation. In Khazan lands a proper water balance study to be conducted by an independent agency with physical models and database, a techno-feasibility study of an alternative arrangement may be conducted to avoid Khazan lands, and an identification of an alternative route by-passing Margao area has to be done. These recommendations were contained in the report given by the Sub-Committee to Kamala Chowdhury. In the Sub-Committee there were five members over and above Dr. Pai Panandikar but in the proceedings the other four did not appear at all and this report was made by Dr. Pai Panandikar and the witness, Mr. Nair who were however unanimous in their views. He has stated that there was no occasion for him to

have gone into the KRC route or any other alternative route.

According to him NATPAC Report, it is based on the separate report submitted by five members of the Kamala Chowdhury Committee. He has also given a copy of the report to the Kerala Government since NATPAC used funds provided by Kerala Government for research and he had used these funds for these works also and, therefore, the report which was the five member report in the Kamala Chowdhury Committee, Mr. Nair separately prepared and submitted it to the Kerala Government. This is said to be the NATPAC Report. NATPAC has had no occasion so far to examine or undertake this kind of study for any other railway alignment in India.

He also produced a 'secret' circular from the Ministry of Surface Transport dated 2nd March 1988 and stated on that basis the dis-tance between the rail bridge and road bridge on the river Zuari was not in conformity with secret circular issued by the Surface Transport Ministry. He also admitted that the costings done by NATPAC are on the basis of Survey of India old map and approxima- tion. He had not actually carried out any survey for realignment.

He also admitted that he had no experience of laying a Railway line and expressed the view that he followed the method which is followed for the road. According to him the method of approach is the same as for roads even though criteria standard may be different and he had ample experience of roads.

About the Kuttanad experience in Kerala he stated that the fall in the percentage of salinity in the water due to construction of a dam, there was loss of fish farming and use of insecticides and pesticides created water problems, resulting in loss of income in that local area. But that was his experience in Kerala.

Commenting on the embankments on the river Zuari approaches, which according to him should be 15-16m high, he expressed the view that on the land width which was acquired it will be difficult to accommodate such embankments.

He also stated that the Kamala Chowdhury Committee was to examine the environment impact on the whole route but the Maharashta and Karnataka Governments said that they had no problem. Goa Government also did not cooperate with this Committee and did not participate in the proceedings but the letter written by Chief Minister of Goa to the Minister for Environment was not discussed.

He states that he suggested an alternative alignment in which the Khazan lands could be avoided and congested areas of Marmagoa, Margao could be avoided and to prevent slipping of slopes in the case of high embankments. Admitting that Railway engineers will know all these safe-guards, he says that he has given his opinion so that the best could be done.

When asked about the design of embankment, he admitted he had not carried out any geo-technical examination of Khazan lands or their weight bearing capacity. He states that he had recommended that water balance study to ensure that the problems that they have come across the Kuttanad would not be created.

He has reiterated that in his report he has not fixed any route or alignment as he could not survey it, therefore the question of parameters did not arise. It will not be possible to have a route without proper survey.

Mr. K.B. Goel General Manager, RITES, New Delhi was examined by me as after the NATPAC Report the Railway Board had referred the matter to RITES and RITES has examined the matter. Mr. Goel stated that as decided by the Ministry of Railways RITES had examined the Midland Alignment suggested by the NATPAC as per the terms of

reference mentioned in the affidavit. NATPAC had suggested a corridor for locating the Railway line. On examination it was found that the corridor was not exactly as per the description given by NATPAC. However after in depth study of the survey of India toposheets, RITES could find three feasible alternative alignments within this corridor. After reconnaissance surveys of the area longitudinal sections were plotted on all the three alternative alignments and quantities worked out. As per terms of reference the quantities and costs were compared with the present Konkan Railway Alignment but as regards this align- ment, though, quantities were given by KRC, they were also checked as per toposheets so that a comparative study on the same basis for KRC and NATPAC alignments would be available.

The comparison was done with respect to effect on the reserved forest areas, built up areas, Khazan lands, paddy fields, gardens and orchards, religious places, Heritage structures, Archeological monuments, Mining areas and iron loading centres, Wild life and bird sanctuaries, feasibility of providing Broad Gauge connection in Marmagoa port, and Road Over-Bridges and Road Under- Bridges, details are given in their final report filed with their affidavit except of ROB's and RUB's for which details have now been filed.

NATPAC suggestions contained no Railway stations in the length of 60 km, showing ignorance of NATPAC about Railway construction and that without locating stations it is not possible to finalise a longitudinal section of a Railway line.

RITES have considered the comparison of land areas but not of the total amount of compensation due to the differential in the land rates in the different areas. However the view expressed is that average cost of land in midland will not be much lesser since the Midland Alignment will require acquisition of large areas of Cashew plantations.

Details from the studies done regarding length of bridges and tunnels have been quoted from the RITES report.

It was also stated by Mr. Goel that the Indian Railway Engineering Code for surveys was not taken note of and indicated that they have carried out a study to compare the features and cost of possible alignments in the NATPAC corridor vis-a-vis the existing KRCL Alignment in terms of the Railway Board's letter and they have not carried out any engineering survey in terms of the code which would be necessary only if a line is required to be constructed on a new route.

He also stated that RITES in their study have not taken into con-sideration the cost of abandoning the present KRC Alignment and restoring the land back to its original condition.

Mr. V. Hiremath, the Deputy General Manager of RITES, New Delhi was also examined as he is in charge of the Environment Cell of RITES but on his examination it was described that the Environ-ment Impact Assessment work entrusted to RITES was not done by them but was got done from the three institutions, namely, the Indian Institute of Science, Bangalore, National Remote Sensing Agency, Hyderabad and the Ecodevelopment Group, New Delhi.

Mr. Hiremath who had only collected these reports and with the assistance of the third group consolidated them into what now forms the RITES report. According to Mr. Hiremath the study done by Mr. Gadgil of Indian Institute of Science was for the region through which the route passes, as impact is not only on a particular line but on the area. The NRSA did the study of the area of 10 km on either side of the alignment and NRSA has submitted maps which have been filed with the KRC affidavit and therefore in fact there is not much in the evidence of this witness and he has done only the consolidation part of it.

The next person examined was Mr. P.S. Bhatnagar who is the Chief Secretary of the Government of Goa at present. From his statement what appears is that the Government of Goa did not cooperate with the Kamala Chowdhury Committee as substantial work has already been done and the number of other Committees have already gone into the aspects of the matter. Quoting from the letter of the Chief Minister it was felt that the Committee shall not serve any purpose and the outstanding problems will have to be discussed with the Railway Ministry and the four participating States.

He confirmed that when the matter of Konkan Railway Alignment came up in the High Court in April'92 the Government of Goa sup-ported the present Konkan Railway Alignment and that till the recent decision of the Government of Goa continued to support the present alignment which had been approved by the Government of Goa.

He also stated that a Cabinet decision was taken on 13th July 1993 which has been filed. This indicates that since due proce-dure of law for the denotification of the earlier alignment and notification of the new alignment has not been observed as required under the Town and Country Planning Act, the Railway line shown in the Regional Plan should be followed with modification if any where necessary.

Mr. Bhatnagar confirmed that earlier a motion moved to reconsider the approval of the KRC Alignment moved by Mr. Churchill Alemao in the Assembly was defeated by 24 votes to 9.

He also stated that question of issuing NOC for land acquisition pertaining to the entire length of Konkan Railway route within Goa came up for consideration in the 51st meeting of the Board of Town and Country Planning and on 13.3.91 the Board agreed that NOC be issued by the Chief Town Planner so that land acquisition proceedings could be started. This was done without effecting changes in the Regional Plan or the outline development plan for land use. It is not specifically mentioned that the 'land use plan should not be changed' but it was said 'pending the formality of change'. It was expected that as this decision was taken, formalities for the modifications of the Regional Plan would follow. After this decision, the competent authorities acquired the land and have given possession to KRC and work was started.

Mr. Bhatnagar also admitted that nobody brought it to the notice of the Cabinet that after the Town and Country Planning Board decision taken in the meeting chaired by the Chief Minister, follow up action for procedure of modification of the Regional Plan must follow. The Town and Country Planning Board's decision does call for the modification of the Regional Plan since that is the function of the Government based on the proposal made by the Board. The decision of the Board could be overridden only by the Government if so desired and in fact at no time it was so done.

He also stated that the Cabinet with the Chief Minister had dis-cussed the suggested shift from Panaji which was accepted by the KRC. The Alignment was marked in the Regional Plan and was approved in a meeting by the Chief Minister which was attended by the Dy. Chief Minister and Chief Secretary in November'90 and on 7th December '90 approval of the State Government was communicated to the KRC.

He also stated that after this, in Jan.'91 there was a change of Government and on 25th March'91 a review meeting was held by the Chief Minister and his Cabinet and after effecting some minor changes in the alignment the project was allowed to continue. In substance it amounts again to the approval of the Cabinet.

He also stated under rules of business, item 30, a Cabinet decision can only be changed by another Cabinet decision and the Cabinet decision regarding the Regional Plan was taken on 16.10.86 has not been reversed by any subsequent Cabinet decision. However

the Cabinet decision on 13.7.93 has approved the Railway route as approved in the Regional Plan as per Cabinet decision on 16.10.86.

However, as stated by Mr. Bhatnagar himself on 6th and 7th of September, 1990 a suggested shift from Panaji which was accepted by KRC, the alignment was approved in December 1990 and again as he stated that in January, 1991 when there was a change of Government on 23rd March, 1991 a review meeting was held with the Chief Minister and his cabinet and after effecting some minor changes the alignment and the project were allowed to continue, in substance there was the Cabinet approval.

Mr. Bhatnagar also stated that in fact no survey was conducted by the Government of Goa in respect of Railway route regard to 'Environment Impact' or 'Archeological monuments and settlements' and other matters.

He confirmed that the whole of the State of Goa has been declared as a backward area for Industrial Purposes by the Central Government.

Dr. S.P. Deshpande, Environmental Planning and Design consultant, was also summoned by me. He had the following qualifications of Bachelor of Engineering (Civil), Post Graduate in Town and Country Planning, Master of Science (Transportation Planning, Birmingham, U.K.), Ph.D. (Transportation Environmental Planning, Birmingham, U.K.).

He, in his deposition had stated that the Konkan Region in general has remained backward because of lack of transport infrastructure. According to him, about 70% of population of Goa lives in this coastal corridor, and the majority of this population will be benefitted by the present route of this Konkan Railway. He has further stated that Railway is the most economical and environmentally accepted mode of transport for the common man.

He clarified that the talk about the Japanese Encephalitis is ab-solutely unreasonable since the possibility of infection depends on certain conditions and Konkan Railway cannot be specifically linked to the occurrence of this kind of infection. According to him, sufficient cross drainage works can be provided which would avoid any environmental conditions which may breed mosquitoes carrying Japanese Encephalitis.

Then I had summoned Mr. N. Pandalai, the Chief Town Planner, Government of Goa. According to him, the Meeting dated 27.11.90 was held by Chief Minister regarding the alignment in Goa of the Konkan Railway. A map showing the KRC route as approved by the Government has also been filed by him. After discussion a decision was taken in the Town and Country Planning Board Meeting held on 13.3.91 to grant 'No Objection Certificates' from the Department of Town and Country Planning for land acquisition for the present Konkan Railway Alignment and thereafter 'No Objection Certificates' were issued. Though No Objection Certificates are not issued for purposes other than the land use, shown in the Regional Plan, these 'No Objection Certificates' were granted with the idea that since the land is being acquired for the Railway the required modifications in the Regional Plan will be done after following appropriate procedures, such as issue of notifications etc.in due course.

He also stated that before grant of 'No Objection Certificates' the modification of the Regional Plan and the change in the Railway route was not done after following the procedures, but it was accepted that subsequently the modification will be done after following procedures. He also stated that large number of applications have been considered for change in alignments and such change has been affected and permissions granted after following due procedure, but the actual work of modification in the Regional Plan has yet to be completed. He also filed a list of such changes and copies of detailed

documents pertaining to a few sample cases. But he frankly admitted that all those modification have not yet been incorporated and the modified plan has not been approved and issued so far.

He also indicated that after the Regional Plan was approved and notified earlier, roads have been built, highways diverted and by-passes constructed and all these have yet not been shown in the Regional Plan modification. No procedure has been followed as far as these roads, highways and irrigation channels are concerned.

He also admitted that without a No Objection Certificates from the Department of Town and Country Planning, no authority will take up the procedures for land acquisition.

He also stated that the Railway line will not create any problem in respect of widening of the roads and highways.

He admitted that the Railway route shown in the Regional Plan was in fact as per the then available proposal of the Railway and not according to the survey conducted by the Department.

He admitted that the Government and the Town and Country Planning Board have given directions in several cases to modify the Regional Plan and it has been modified number of times for various purposes. But, the modified Regional Plan has not yet been notified.

Mr. David Stephen who has also filed his representation as an interested party and who claimed to be a specialist especially about the Khazan lands and the fishing prospects of it was summoned by me and he has been examined.

Mr. David Stephen stated that he is a Master of Fisheries Science, Ph.D in Geography from Hawaii University, with specialization in Marine Resource Management and Planning. Also did Post Doctorate Research in Aquaculture in Hawaii University.

According to him, he, after return to India in 1983 was in the Institute of Oceanography and after leaving that Institute in 1990 had started a private consultancy. He had produced along with his affidavits, 25 photographs with notes dealing with the Khazan lands. In fact all his statements and his affidavits mainly deal with the Khazan lands and the two aspects of it, one the paddy cultivation and then the fishing.

He stated that according to the Fifth Five Year Plan, before any project is approved an environment impact assessment has to be made. These procedures should have been followed in the present case also.

According to him as per his studies, Khazan lands have very good potential and are ideal for shrimp farming which can give an income of Rs.2 crore per year for 10 hectares of such land. This potential could be adversely affected by the Konkan Railway line passing through such lands.

According to him due to large embankments in the stretch from Narva bridge to Zuari bridge there are disturbances to dynamic ecological processes which will result in loss of habitat which are necessary ground for fish and shell life, This will affect the Mandovi-Zuari eco-systems which may be disturbed resulting in diminishing the catch particularly of commercially important fishes which are exported. Rice production will also be affected.

The drainage provided by KRC is inadequate and will cause serious reduction in the flow of water and the percentage of flow will be less than 1% of the original flow if hume pipe of one metre diameter is put in this channel. When he was questioned about some particular studies carried out in some particular areas of Khazan lands, he refused to produce that study because according to him it was done for some private party on

payment of fees and therefore it being the property of the party, he is not able to produce. Since hume pipes will also sink in the marine clays and ultimately the entire water flow will be cut off.

In substance, the main theme of the theory is that if the flow of water is not properly maintained, the Khazan area will have losses both in paddy cultivation as well as in fishing activities. At the same time another grievance made was that if those small boats which go for fishing if there are not sufficient clearance through which these boats would pass it will also affect the activities of the fisher folks. Except this there is not in the statement of this witness.

On behalf of the KRC, I had summoned two persons, Mr. Rajaram who was the Chief Engineer in Goa during most of the time since KRC work started till he has been recently promoted and sent to Bombay and one Mr. Salelkar, who is now working as an Adviser to the Konkan Railway Corporation at Goa. I first therefore, decided to examine Mr. Rajaram because he was actually dealing with the whole matter all through the controversial period and had carried out the work whatever been done so far.

Mr. Rajaram has stated that he is Bachelor of Engineering (Civil) from Andhra University, Master of Technology (Structures), IIT, Kharagpur and had worked as a Research Scholar. He has been a gold medalist all through and in 1970 he joined the Indian Railway Engineering Service. From 1978 to 1987 he worked as a Deputy Director and Joint Director, of Research Design Standards Organisation and from 1987 to 1990 he worked in Zambia and was a consultant to Aqabo Railway Corporation.

In his statement he has filed a number of documents some of which were filed among questions suggested by some of the parties, gives this list of documents from 1 to 12 as has been stated in this Summary.

1. Gantt Chart for Konkan Railway project control - Goa Sector.

2. Soil investigation reports for portions from Zuari to Assonora.

3. Details of plans and 'L' sections and quantities for earth work etc, for the 4 modifications carried out in the approved alignment.

4. List of pipe culverts completed in Khazan land till 26.3.93.

5. Details of land acquisition for handing over to the Forest Department in village Bali for afforestation.

6. L Section and plans of Khazan land.

7. Booklet on reply to reference made by Goa Foundation.

8. Booklet on Goa economy in figures 1993.

9. Booklet of Memorandum and Articles of Association of Konkan Railway Corporation Ltd.

10. Booklet on Agreement between Government of India (Ministry of Railways) and Governments of Maharashtra, Goa, Karnataka and Kerala.

11. Booklet on Progress reports - Goa sector.

12. Copies of Miscellaneous letters and documents.

He stated that as soon as he was posted at Goa he had the Southern Railway report which was approved and implementation of which was expected from him and as per the sanctioned project he approached the Goa Government for land acquisition. Chief Minister convened a meeting on 7.9.90, and after KRC accepted a few changes suggested by the Goa Government, Government of Goa conveyed their approval vide their letter

dated 7.12.90. Chief Minister wanted the priority to be given to the work between Margao and Bali where alignment is same as in the Regional Plan.

Thereafter a meeting was held with the Chief Secretary to decide how land acquisition was to be expedited. It was decided that a general 'No Objection Certificate' be issued by the Town and Country Planning Board.

At this stage KRC had to change the alignment near Carambjua Canal due to poor soil conditions on Jua island and very high embankment involved in providing navigational clearance on this canal.

In March, 1991, further changes were made in the alignment at the instance of Mr. Ravi Naik, Chief Minister in Majorda-Consulim area. In June, 1991 navigational clearances were got confirmed by the Government of Goa on Mandovi and Zuari rivers.

In July, 1991, Mr. Eduardo Faleiro addressed a public meeting and first called Mayem-Bali a disputed sector. This was followed by his approaching the Railway Minister who called a meeting in August, 1991 which was attended by Mr. Faleiro, Goa Government, Railway Board Officers and Chairman-cum-Managing Director, Konkan Railway Corporation was asked to work out additional cost of shifting the alignment. However, on 3.9.91, the Government of Goa advised that except 13 kms. between Margao and Bali no other change is needed and conveyed that they did not agree to bear any additional cost and confirmed that they did not want any further changes.

Railway Minister however, asked Mr. Manuel Menezes, a Retired Chairman of the Railway Board and of Goan origin to go into the issues. He, after examining the matter confirmed the present alignment except on 13 kms. length between Margao and Bali where he proposed an eastward shift to avoid inhabited areas. This was accepted.

He also stated that a writ petition was filed by Goa Foundation against this Konkan Railway Alignment in the High Court and when the petition was dismissed in the High Court, a special leave petition was filed in the Supreme Court also and Supreme Court also dismissed that special leave petition and confirmed the judgment of the High Court.

The Minister for Environment and Forest also appointed a Committee under Dr. Kamala Chowdhury of which the majority report upheld the present Konkan Railway Alignment.

The work on this sector was smoothly progressing till suspension of work on 26.3.1993.

For construction of embankments in Khazan lands beyond 8m high, the technology of sand drains has been adopted, since geo-physical quality of Khazan land require such measures for safety of embankment constructed. 21 km. alignment goes through Khazan lands of which 4.5 km. is not on one side but is crossing the Khazans. In such locations adequate cross drainage has been provided by providing adequate bridging. Drainage provided are 100% more than those of existing sluice gates. Care has been taken to see that backwater sections are not disturbed and are fully bridged. Stagnation of water would, therefore, be avoided.

Except where passing through existing Metre Gauge corridor, alignment has been deliberately kept 1 to 1.5 km. away from the populated areas. In Metre Gauge parallel sector, only marginal land width has been acquired.

Road over-bridges/Road under-bridges are being provided wherever justified as per Railway's norms, which are same for all parts of the country.

As desired by the Government of Goa, who wanted to avoid passenger movement from Old Goa to and from Panaji on the road leading to the heritage monuments, Old Goa

Station will not be open to passenger/goods traffic.

Konkan Railway line was planned with the parameters of 'A' routes with a speed potential of 160 kmph but rails are being provided as per 'B' Category routes.

Southern and Central Railways in their surveys pursued different objectives with consequent different parameters. The decision to follow the Southern Railway's survey route was taken by the Ministry of Railways. Minor changes in the route were made by KRC owing to the need to conform to the updated curvature and gradient standards, planned for the entire KRC line. Curvature is decided based on the speed potential of a line. As the Central Railway report of 1971 was based on outdated parameters, witness has not studied that report.

Though both Central and Southern Railway reports both states that bridges on major rivers Mandovi and Zuari should be as much towards the east as possible to reduce the cost of bridges, this as per witness is not the most important criteria for fixing the alignment which depend on a number of factors.

The routes are ultimately decided by the Ministry of Railways and KRC got the route with all its changes approved in December, 1991 from the Ministry of Railways.

As per navigational requirements given by Government of Goa KRC is maintaining 124m span in the major bridges on Navigational Rivers/Channels.

The present Railway route does not pass through any wild life sanctuary and the minimum distance of the line from the sea shore is 2 kms at Majorda and Cortalim.

As regards the declared objective of KRCL of connecting backward areas, he pointed out that the entire State has been declared as a backward area in the Budget speech of the Finance Minister in 1993.

Coming to the relevance of the existing alignment vis-a-vis the industrial estates he stated that the alignment is less than 7 kms from the estates as compared to about double that distance from the hinterland and midland alignments being proposed.

Stating that the overall project report for the route of the entire Konkan Railway not only of Goa is covered in one project report and for small deviations, though all the principles prescribed are followed for surveying such stretches, separate project reports are not required to be prepared. Such re-alignments are decided at the Head Quarters level of the field engineers.

Coming to the question of consultation with the Military authorities the witness stated that this is required only when the Railway work affects the military cantonments ranges or works.

Regarding the bridges, the bridge loading rules, as per which bridges are designed all over the Indian Railways, taken into account the heavy military loadings also.

Coming to the 'secret' letter dated 2nd March, 1988 from the Ministry of Surface Transport regarding location of bridges, witness has stated that he was not aware of any such letter prior to its presentation before the Commission, perhaps because it is not addressed to the Railway Ministry.

Coming to the cost aspects, witness stated that against the estimated cost of 116.27 crores excluding signal & telecom and service/residential buildings on the Mayem-Bali sector, as per tender rates the cost will be 131.7 crores, i.e an appreciation of about 13% approximately.

Coming to the compensation for land acquisition, he stated that land prices were taken at the rates fixed by the local revenue authorities who decided the rate, acquired the

land and disbursed the amount of compensation. At this stage, KRC has not provided for enhancement which may have to be paid in future as a result of any enhancement in compensation by Court.

The work was being progressed as per schedule on 26th March, 1993 but based on postponement, revised schedules have been prepared and the work on the entire route has been adjusted by controlling the fund flow so as to cut down the losses to the Corporation.

While discussing the depth of the surveys done by Southern and Central Railways with reference to the provisions in the engineering code, witness stated that once the project is sanctioned and execution starts, the final pegging of alignment and further study of all site conditions and details have to be taken up and all the aspects and implications considered and remedial measures are required to be taken. Special studies were, thus, taken up for embankment stability in Khazan lands and in designing the foundations for hume pipes in such lands, etc.

As and when the iron based industries and other mineral based industries are permitted, industrial sidings, which are much cheaper than the main line track can be provided to serve the same, if required on traffic considerations.

He has also stated that claims have been received from some contractors for compensation on account of stoppage of work.

Coming to Diwar island the witness indicated that since earth is not available on the island, it is planned to complete the Mandovi II bridge earlier, so that more earth can come from Narva side. He stated that they are consciously not using mining rejects since these rejects do not possess the required physical properties for the stability of embankments.

Coming to sluice gates, witness confirmed that they have not even disturbed a single sluice gate but are trying to build a bridge over a sluice gate instead of dislocating it. Thus, one sluice gate was acquired because it is falling within the route but they are keeping it as it was.

Witness confirmed that all the tunnels and bridges are being built only for single line.

This witness also clearly stated that wherever for a short distance the track passes through inside the Khazan lands adequate arrangements will be made for the flow of water. As suggested in the site inspection it was stated at present the pipes have been kept on the ground so that temporary passage is possible but in fact that is not how the pipes will be laid finally for passing of the water, in fact they will be laid on foundations and proper maintenance will be done so that the flow of water is not affected in any manner.

In this way this witness has given all the details of how the project has been planned, project reports have been compiled the soil tests have been conducted and how the embankments and the over-bridging will be done.

In fact after examination of this witness it was thought that it is not necessary to examine Mr. Salelkar also as he was acting only as an Adviser and Mr. Rajaram who was the Chief Engineer in- charge of this work has given all possible details and number of questions were permitted and put to this witness, in fact his statement went on for a very long time and all possible questions suggested by all the parties, even some of them irrelevant have been put to this witness and it must be stated that he has satisfactorily explained all the situations.

In this manner when we looked to the statement of these persons who were summoned by the Commission and the affidavits, representations and statements given by some of the persons who were present at the time of public hearing during July, an overall picture appears that out of MLA's and MLC's 34 have been submitted out of whom

15 support the Konkan Railway present alignment and 19 are opposing. So far as Sarpanchas are concerned, so far we have received 29 representations from various Sarpanchas, out of whom 27 have supported the present alignment and two have demanded a change. As regards, the representative individuals representing various groups and persons 72 have filed their representations, out of which 23 are supporting and 49 are opposing the present alignment.

As regards MPs are concerned, we have received 4 representations from MPs who support the alignment, they are Ram Naik, Dananjaya Kumar, O. Rajagopal and V.S. Acharya. There is also the affidavit of former Railway Minister and now MP Mr. George Fernandes, but admittedly they are MPs out of Goa. So far as Goa is concerned we have received an affidavit from Mr. Harish N.P. Zantye who is in Lok Sabha from North Goa. He has supported the alignment and we have received another affidavit from Mr. Eduardo Faleiro who represents South Goa and he in his affidavit has neither supported nor opposed the alignment approved by the Konkan Railway but has only suggested that peoples' opinion must be considered.

In this manner the overall picture that emerges from all these representations, affidavits, their own personal statements made in the individual capacities or representations of some organisations and groups and those who were summoned by the Commission, there appears to be on thing very clear. One is, although people have been talking about environment even the experts and layman those have been talking about environment, none of them have been able to say anything specific about it. In fact some of the persons who have not claimed to be an expert have very clearly stated that about the air pollution and they have stated whereas one train which carry goods or passengers which ordinarily could be carried by 20 to 40 trucks and therefore the air pollution created by 20 to 40 trucks or buses will be much more than by one train and this indicates how clearly some of the people have understood the question. An attempt was made by me sometimes to ask these persons who claimed to be experts what they feel will be the impact on environment, but I must say that none of them could say anything. It is, in fact because it is a fact that the environment impact will depend upon (copy unclear)..... only the air pollution and noise pollution. So far as the present situation in Goa this portion where the track is proposed to be and which appears to be a populated area the vehicles like trucks and buses also create lot of pollution and a train in no case can create more pollution of air or sound than what is created by these vehicles passing through every now and then. Similarly, sometimes the experts suggested that it will disturb the ecology and it will disturb the hills which are being cut. It is no doubt that at some places, hillocks have to be cut for getting the earth work done, but that is not the case for Railway alone. We have noticed in our inspection that even for roads wherever earth work is needed the earth has to be collected from somewhere and that was being done by cutting the hillocks. At one or two places it was pointed out that when the hillocks are cut and proper terracing is not done, because of the nature of the soil afterwards there are landslides and that creates a disturbance to the eco-system. It is no doubt true that we have even noticed that where for the highways and approaches to the bridges these hillocks have been cut no body had bothered to do the surfacing or retain the manner in which it is expected and it has resulted, in fact in landslide which are apparently visible at number of places.

The next important question which was generally raised, which really deserved consideration was the situation of Khazan lands which is a very peculiar situation in this part of the country. In these Khazan lands they have sluice gates made on bunds by the agriculturists themselves and they are so planned that the water can flow in and out as and when needed. It is suggested that for paddy cultivation it controls the flow of saline water

and after the paddy cultivation is over it allows the flow of saline water for fishing activities. It therefore was suggested that laying the rail route through the Khazan lands this flow of water through sluice gates will be disturbed.

Another question which was really raised was that apart from these sluice gates at some places the fishing boats pass through the creeks and the small culverts or the hume pipes which the Railway proposes to put for passage of water to and fro, it may not be possible for these boats to pass through which are also an essential part of the fishing activities and it appears that this also deserves to be considered. It is no doubt true that from the figures as have come on record and Mr. Rajaram who had categorically stated that out of the Khazan lands the area through which the rail line really passes through the midst of Khazan lands is a very small area. The rest either passes on the one bank and that too is a very small ratio as compared to the total Khazan land area in the State as a whole. It is also noticed that similar situation has arisen when in some places where the highways and roads also pass through Khazan Lands. In fact it has been noticed that at number of places in these Khazan lands also building activity has started. The evidence of the Chief Town Planner itself indicated that at number of places permission have been granted for construction of roads, highways, by-passes and irrigation projects without following the procedure of modification of the Plan where land use is specially indicated. It was also stated by the Town Planner that all the approvals of the Railway route and the No Objection Certificates which were issued for it involved change of the land use as compared to the Regional Plan and were done with an expectation that the due procedure for modification and alteration of the land use will be followed. But, unfortunately, he frankly admitted that not only for Konkan Railway Alignment but even for some other things for which permissions have been granted the procedure for modification of the Regional Plan has yet not been followed.

There were some of the other questions about the Diwar island through which the track passes, mainly there were two submissions because part of this track passed through Khazan lands on that island also and also a suggestion was made that one hillock.

A suggestion was also made that from Zuari approach to Sa Jose de Areal, an underground tunnel could be constructed.

Part II

A total of about 324 representations/affidavits were filed before me. Out of them there were representations or affidavits from three Governments, 2 Chief Ministers, the Chief Minister of Maharashtra, Hon'ble Mr. Sharad Pawar, and the Chief Minister of Karnataka, Hon'ble Mr. Veerappa Moily. There were the affidavits of 7 MPs, 6 supporting the alignment and one not very clear. The total number of MLAs and MLCs who filed their affidavits were 34 out of whom 15 supported the alignment and 19 opposed. There were about 29 Sarpanchas of various village panchayats who filed their representations or affidavits out of whom 27 supported the present alignment and 2 opposed. There are about 72 representations claimed to be representatives of individuals, some organisations, others with number of signatories, out of them 23 supported the alignment and 49 opposing the alignment.

When parties were invited to appear and state if they have anything to say in those public hearings which went on from 09.7.93 to 12.07.93, 37 persons stepped into the witness box and made their statements and, thereafter as no body had anything more to say, the public hearings were concluded. Then I had summoned certain persons to be examined and that hearing commenced from 9th of August and continued upto 21st of August 1993. During this period, 13 of those persons summoned were examined and Mr. George Fernandes, who was the Railway Minister in 1990 appeared himself and made a request that he too be examined. Parties were also permitted to file their written submissions and we have received number of submissions from a number of parties including the Government of Goa. Before going into the other submissions and the question that has been raised it, it would be good first to deal with the submissions made by the Government of Goa through the Government advocate, as this submission clearly states the chronological event of facts.

The Ministry of Railways directed the Southern Railway to take up the final Location Survey of the West Coast Railway Line from Roha to Mangalore. The alignment as originally proposed was to touch Panaji and was generally on a stretch of land between the Arabian Sea on the West and the chain of Western Ghats on the East. The Government of India then decided to set up a Konkan Railway Corporation for taking up this line on BOT concept with Goa Government participating with 6% equity.

The then Chief Minister of Goa in his letter to the Railway Minister raised certain basic questions with respect to the alignment on 02.07.90 suggesting that Margao and Panaji should be avoided and the alignment should avoid densely populated coastal areas. However, the Railway Minister vide his reply dated 05.09.90 mentioned that the alignment would be more useful not only to the movement of passengers and freight but will include healthy development of the State assuring that the construction on the Railway line will not be in any way affect the ecology or degrade the environment of the area. The Town and Country Planning Board at its 48th meeting on 01.10.90 decided to follow the alignment incorporated in the Regional Plan till a new alignment was finalised by the Railway with the approval of the Government of Goa.

The matter was then discussed by Chief Minister and his Cabinet colleagues with Railway Officers on 6th and 7th September, 1990 and after discussion the alignment suitably modified was marked on the Regional Plan which was approved in the meeting

with the Chief Minister which was attended by the Deputy Chief Minister and the Chief Secretary. Thereafter, Government of Goa conveyed their approval to this new Railway line vide its letter dated 07.12.1990.

The KRC thereafter moved the Government for land acquisition in Margao area. The matter was considered in the 50th meeting of the Board held on 18.01.91. The Board noticed that the proposal of the Corporation involved change in the land use and as such they recommended to the Government change in the land use which was approved by the Government on 09.02.91.

The Town and Country Planning Board agreed that No Objection Certificates may be issued by the CTP. Thus No Objection Certificates were issued for change of land use on the stretch of the said Railway Alignment, however, the Regional Plan remained as it was before and no modification to the same was made as no procedure was followed. Although the Government of Goa had approved the change in the land use according to the decision of the Government dated 09.02.91.

In January, 1991 after a change in the Government a review meeting was held by the then Chief Minister with the Cabinet colleagues and after effecting some minor changes in the alignment, the project was allowed to continue. No Objection Certificates were issued, land acquired and possession of 730.79 hectares of land against 737.17 hectares of land proposed to be acquired, was made over to Konkan Railway Corporation.

After acquisition of the land, a question arose as to whether the provisions of the Forest Conservation Act, 1980 and the Trees Preservation Act, 1984 would be applicable to this said work. Konkan Railway Corporation took a plea that in view of the provisions of Section 11 of the Railways Act, 1989 the provisions of the above mentioned two acts would not be applicable to the work of Railways. As it was felt that the provisions of Railway Act, 1989 would have overriding effect on both these above acts, as such the Corporation was allowed to go ahead with the work. It is also admitted by the Government that at time a writ petition was filed by the Goa Foundation in the Bombay High Court bench at Panaji and the judgement in this writ petition was delivered laying down that the Railway Act section 11 overrides the Local Acts. In fact, on 2nd December 1991, the Government of Goa, Department of Forest approved the Railway Alignment as there were certain forest areas also needed for the Konkan Railway Corporation and it was communicated by Under Secretary to the Government of Goa, Forest Department. It is stated in this letter that keeping in view the above this Government has approved the proposal of the Konkan Railway Corporation for the proposed Konkan Railway line and the recommendation by this letter was also sent to the Ministry of Environment for seeking their approval. It is requested in this letter that approval of Ministry of Environment and Forest, New Delhi may, therefore, kindly be accorded under Section 2 of the Forest Conservation Act, 1980 to divert 36 hectares in South Goa district of Goa State for the purposes of laying down the Railway Broad Gauge line.

This order of the Forest Department of Goa also indicates that they asked the Konkan Railway Corporation to get 36 hectares of land for reforestation and hand it over to the Forest Department and that also was done and for afforestation the Forest Department also asked them to deposit certain amounts which is required to be done after approval of Ministry of Environment and Forests, New Delhi. The requisite amount has been kept in reserve by the Railway to be paid on demand. In fact, in spite of the decision of the Bombay High Court, the Forest Department of Goa had given approval after following the procedure under the Forest Act taking equal land for afforestation and asking the Railway to deposit the amount which will be spent on afforestation of the land which under the law was necessary.

It has further been submitted in the Submission made by the Government of Goa that on 18.05.93 there was a change of the Government and on 13.07.93 the new Council of Ministers considered the question of Railway Alignment. It was found that the Regional Plan of Goa which was prepared under the provision of Town and Country Planning Act, 1974 had not undergone any change as per the procedure laid down in this Act. The Cabinet therefore, decided that the alignment of the Railway line shown in the Regional Plan should be followed with such modifications where necessary to avoid settlements. As noticed earlier, it would be significant that the Government of Goa vide their letter dated 09.02.91 had approved the Konkan Railway's Alignment and approved also the land use change as suggested by the Board in their 50th meeting on 18.01.91 and this approval of the Government to the Board decision for the change of land use clearly amounted to a sanction by the Government for modification of the Regional Plan. It appears that thereafter the procedure which has to be followed was not strictly followed.

It is, therefore, clear that the Government of Goa's decision to follow the Regional Plan only means that it is subject to the modifications as was decided earlier after following the proper procedure. Therefore, in fact the submissions of the Government of Goa, as now stand, and the latest Cabinet decision that the Railway Alignment should follow the Regional Plan could only be understood in the correct sense that the modified Regional Plan which may be modified in accordance with the procedure established by law because, in fact, the Government of Goa not only conveyed their approval, the Town and Country Planning Board not only approved and requested the Government to convey their approval but on the approval of the Government No Objection Certificates were issued, land was acquired by the Government Authorities of Goa, the land was handed over to the Konkan Railway Corporation, the Government cooperated at every stage to start the work and the work has taken place in the approved alignment and number of things have actually been done on the spot. Under these circumstances the recent decision of the Government of Goa would only mean that they will follow the Regional Plan as modified as the procedure for modification has yet to be followed.

According to me, in order to resolve this legal question, it would also be relevant to refer to the judgement of the Bombay High Court, Panaji Bench (Goa) in writ petition No.170 of 1992 reported in AIR 1972 Bombay Page 471. In this judgement the High Court had observed the 'Corporation is also right in the contention that the provisions of Environment Act have no application in respect of work undertaken in exercise of power conferred under section 11 of the Railways Act, 1989. Section 11 interalia provides that notwithstanding anything contained in any other law the Railway administration may for the purposes of constructing or maintaining a Railway make or construct to or upon across under or over any land or any streets, hills, valleys, roads, streams or other waters, rivers, as it thinks proper.' The wide ambit of the provisions of section 11 and the non-abstentive clause make it extremely clear that the provisions of the Environment Act do not bind the construction or maintenance of the Railway line. The Railway Act is a legislation enacted subsequent of the Environment Act and the Corporation is right in claiming that for the purposes of providing the Railway line clearance is not required even though line passes over the Railway rivers, creeks, etc. in view of the specific provision of the Railway Act. It is also clear that against this judgement a Special Leave Petition (SLP) was filed before the Hon'ble Supreme Court of India and that SLP was also dismissed. Thus, so far as the legal objections are concerned they are set at rest by this judgement and even apart from it looking to the language of section 11 of the Railway Act there can be no doubt left so far as this aspect to the matter.

It is also significant as discussed earlier that the Government of Goa after having approved the alignment and also the Town and Country Planning Board after approving

it and the approval for the modification of land use having been given by the Government what remained was only the procedure to be followed to modify in the Regional Plan. In this context it is also significant what has come in the Statement of Mr. Bhatnagar, the Chief Secretary of the Goa Government that a question was raised in the Goa Legislative Assembly about the reconsideration of the Railway Alignment and the resolution moved for that purpose was defeated in the Legislative Assembly for 24 votes to 9. Thus, it is clear that the Government of Goa's approval of the Railway Alignment approval of the recommendations of the Town and Country Planning Board for the change in land use and the approval conveyed by the Government of Goa to the Railway coupled with the fact that the land acquisition proceedings were started on the basis of 'No Objection Certificates' granted by the Government of Goa and the Town and Country Planning Board. The land acquisition proceedings were taken up by the State Government authorities, the possession was taken and handed over to the Konkan Railway Corporation. This, therefore, clearly indicates that the Government of Goa not only approved the alignment after modifications and not only approved the change in the land use but also approved the modification of the Regional Plan. What remained was only the procedural part and it is also clear that this decision on the Government was even approved by the Legislative Assembly by majority. Under these circumstances no one can expect that merely because one Chief Minister goes and another comes in the Government will think of taking a contrary decision. It cannot retrace back all the steps taken and in this view, therefore, what appears to be very clear is that the present decision of the Government saying that the Railway route should be the Regional Plan route only means the Regional Plan route which will now be modified after following the procedure. This also appears to be the clear picture because section 11 of the Railway Act will override all other Acts.

In this context, the stand taken by the State Government in their submissions filed before me becomes more significant. In para 8 of these submissions it was stated that the Town and Country Planning Board in the 58th meeting held on 01.10.90 discussed the development of the Konkan Railway line and decided to follow the alignment incorporated in the Regional Plan till new alignment is finalised by the Railway with the approval of the Government of Goa.

It is further stated that the matter was also discussed by the Chief Minister and his Cabinet colleagues with the Officers of the Railway on 6th and 7th September, 1990 and suggested that the alignment should be away from Panaji and Mapusa. Somewhere in the middle between Ponda and Panaji Alignment after discussion the Konkan Railway authorities modified the alignment so as to pass through Pernem, Teverim, Asonara, Sent, Esterin, Codalin, Nepura, Coctaulim, Verna, Novim, Margao, Panaji, Khan, Cambolim, Barli, Chorli, the Lupna and Galgibag. This alignment was marked on the Regional Plan which was approved in the meeting of the Chief Minister which was attended by Deputy Chief Minister and the Chief Secretary on 8th and 9th of November, 1990. Thereafter, the Government conveyed its approval to this new Railway line by its letter dated 07.12.90. This clearly indicates that this Railway Alignment approved by the Town and Country Planning Board approved by the Government was in fact marked on the Regional Plan and approval was conveyed to the Railway authorities and subsequently as stated in para 10 that the Board noticed that the proposal of the Corporation involves change of land use and, as such they recommended to the Government change in the land use which was approved by the Government on 09.02.91. The Town and Country Planning Board agreed after the approval of the Government that No Objection Certificates may be issued by the Town and Country Planning Board and then the No Objections Certificates were issued for change of land use on the stretch of the said Railway Alignment. However, the Regional Plan was not modified as the procedure was yet to be followed.

Therefore, so far as the change in the Government of Goa in 1993 and the resolution of the Cabinet saying that they will follow the Regional Plan is very clear it only means that the Regional Plan for which a decision had already been taken for its modification, the decision to change the land use which has also been approved is only a matter of procedure and the Regional Plan which after following the procedure will be modified as it has already been approved by the Government and that approval has even been confirmed by the Legislative Assembly and there is no scope for any change now. This concludes so far as the technical or legal aspect of the matter is concerned in respect to the Regional Plan and the decision of the Government of Goa.

In this context it will also be useful to consider the affidavits filed by the 2 MPs from the Goa State. As discussed earlier, although there are other MPs from the neighbouring States also who filed affidavits but the 2 MPs from Goa - one is Mr. Harish N.P. Zantye, is member of the Lok Sabha from North Goa and the other is Mr. Eduardo Faleiro, he is the MP from South Goa and also a Minister of State in the Central Cabinet. Out of these 2 MPs, the MP from North Goa has clearly supported the Konkan Railway Alignment and has said that the Railway is the need of the hour so far as the Goa State is concerned. So far as Mr. Faleiro is concerned he too has not only stated that he has always stood for a Railway line passing through Goa, he has even quoted his speech in the Parliament and has denied that he did anything in Japan which prevented Konkan Railway Corporation to get some help from Japan as alleged by the former Minister for Railways, Mr. George Fernandes in some public statement and he also did not say in clear terms that he does not approve of the Alignment. What his grievance appears to be is that my Commission should have public hearings and consider public objections if any, consider their objections and decide. He has neither said anything about any change in the Alignment nor in any particular manner in which the alignment should be modified. It is, therefore clear that both the MPs of the Goa State also has nothing in particular to say one clearly support the alignment, the other only said peoples objections should be heard and considered.

I was appointed to go into the question on the basis of a resolution dated 3rd June 1993. This in particular, states that the Government had approved the construction of the Konkan Railway line which runs for about 106 kms through Goa. Work on this line is already in progress. It was stated that a number of representations have been made against the proposed coastal alignment of the Railway line in Mayem-Bali on the grounds.

1. The alignment disrupts the densely populated, settled areas of Goa,

2. There will be serious damage to eco-system, including the Mandovi-Zuari estuaries, the Carambolim lake and destruction of hills - through heavy amount of cutting for earth work purposes.

3. The Khazan lands would be seriously affected,

4. Cultural and archaeological heritage of Old Goa would be seriously affected.

It is further stated that this resolution that in view of the strong representations by the public on this issue the Government of India have decided to refer the matter to a High Level Committee for a final decision. The Committee will be headed by Justice G.J. Oza, Retd. Judge, Supreme Court of India (myself) and thereafter, the terms of reference have been mentioned which I have already stated in my report.

It is also stated after the terms of reference that in arriving its decision the Committee shall also consider the previous studies in this issues, i.e Mr. Menezes Report, Kamala Chowdhury Report, the RITES Report and it is also stated that the Committee shall recommend a suitable course of action to the Government and that the Committee shall decide its own rules of procedure. Later on a notification under section 11 of the

Commission of Enquiries Act was also issued. This all goes to show that what I was expected to do in view of the objections that were raised, hear the people and arrive at my own findings of facts and conclusions and in so doing in the light of the terms of reference also look to the previous studies conducted on this aspect by various authorities.

In this view of the matter, therefore, the procedure that I followed was to issue a notification inviting all to come forward and file their representations along with their affidavits. A sufficient time was given when this notification was published in all the respective newspapers, local as well as all India and the time granted was adequate. It was further clarified in this notification that any evidence that they want to LEAD they may file those documents and affidavits as well. In pursuance to this notification the affidavits and representations were filed and received by the office upto 8th July. In fact, even thereafter whenever some reasons were stated, I have accepted the representations and considered them.

In the submissions made by the respective parties, some objections have been raised about the procedure. As when the Commission's witness were summoned by the Commission were being examined, people made applications for examination of some of the witnesses. But in fact this opportunity was available to the parties. When earlier all parties were permitted to come make their statements, if they wanted to say what they wanted to say and when everything was concluded there was no occasion for parties now to come forward and pray with applications. Another grievance made, appears to be is that the parties wanted to cross examine the witnesses who were examined by the Commission. In fact I had passed an order indicating that it is not an inter party dispute it is not as if the rights of this party are going to be determined, hence no question of cross examination. Most of the questions suggested were put by me and answers recorded. By some question of administering oath was raised. I did not think it necessary, but when parties insisted, I started giving oaths.

I, therefore, gave all the possible opportunity to all for hearing all persons wanting to step into the witness box, whatever they had to say was heard, they were permitted even to file supplementary affidavits and representations and all of them were considered. Unfortunately I must say here that one of the parties, namely All Goa Citizens Committee for Social Justice and Action were not only active but they sometimes used indiscreet language. I must say that as far as the All Goa Citizens Committee for Social Justice and Action is concerned, its behaviour was rather funny. They go on sending all kinds of letters and comments, they will go on making all kinds of representations and unfortunately, I was compelled to enquire from the person Mr. Jos who used to appear for them, and it was discovered that in fact that the so called organisation has come into existence only last year and this, their first agitation that they are carrying out is about this Railway Alignment.

It appears not only that they behave like this with me but they wanted to make allegations against Mr. Menezes, they also attempted to suggest and make allegations against Dr. Kamala Chowdhury and the Committee, they even made allegations against the RITES, they were prepared to throw allegations against everyone whosoever was in the picture and ultimately, therefore, I had to tell them that the language and the behaviour reflects on them and in any event therefore, for whatever it is worth, but I have considered and given them also the full opportunity.

It is yet another peculiar aspect of the matter that the complaints they made about the water stagnation and the spread of Japanese Encephalitis, they created such a publicity stunt that people were frightened, but in fact as the material collected clearly indicated that the stagnation of water does not take place only when there is Railway Alignment, the roads are passing through Khazans, there are lot of construction work and it is very

peculiar that these people have raised no objections as regards the road, highways and others and even in regard to the environment they had made no grievance about the roads and their construction and the situation that they complained about that the Railway had in fact been created by roads and that could be easily seen.

This goes to indicate what George Fernandes in his affidavit alleged, that this agitation of the people to shift the alignment from the populated area is a road transport magnets supported movement because if the railway will be available in this populated area, the road transport may suffer a setback. In any way we are not concerned but I must say that the attitude of such organisations was rather funny and peculiar.

I may also mention that attempt was made by this organisation to delay the proceedings. Their attempt that it should be delayed further, in fact even at the fag end of the hearing they again made an application that they want a month's time. I frankly told them the loss to the public exchequer will be great because during rainy season the work may be suspended still it will not create a great problem but immediately after the rainy season is over wherever and whatever work has to be done has to be carried out as early as possible and I will not permit any one to create a situation where unnecessarily there will be loss to the public exchequer.

Lot of hue and cry was raised by some people about the NATPAC Alignment suggested in the NATPAC Report. In fact when Mr. Kesavan Nair, the Director of NATPAC appeared in the witness box and before appearing in the witness box he was also with me when we went around the inspection of the so called NATPAC Alignment, he frankly accepted that in fact it is not an alignment nor has any survey been conducted. According to him he was one of the member of the Kamla Choudhury Committee and is one of the signatories to the separate report.

With the members of the sub-committee of Kamala Chowdhury Committee on alignment, he had carried out work and because in order to carry out work he used some staff of his NATPAC which is an organisation based in Kerala and because some money of that organisation was spent he chose to prepare that report which is a part of the Kamala Chowdhury Report as a separate report and submitted it to the Kerala Government which is said to be the NATPAC Report. He also frankly admitted even during his examination before me when I had summoned him that in fact he had not carried out any particular survey, nor land examination, nor costing on the basis of any particular date, but he felt that he is supposed to suggest an alternative route and for that alternative route he had only suggested an alternative corridor without carrying out any detailed or specific survey nor about costing or anything else. Under this circumstances, therefore, the NATPAC Report as it is, is of no consequence. He himself admitted about it and he had also not carried out any special survey, whether it will affect the forest or not, whether it will affect the farmers, whether it will affect the irrigation systems, whether it will affect the loading centres of the iron ore, etc. All other matters have been examined and rejected by RITES and Mr. Menezes.

Part III

Having considered the overall evidence and the reports submitted by Mr. Menezes and having considered all the aspects of the matter, there appears to be no doubt that this alignment which is now said to be the approved alignment of Konkan Railways is most useful for service to the people of the area both for passenger traffic as well as for goods traffic.

At the time of inspection those who were opposing the alignment in question agreed that if any other alignment suggested in the Hinterland or Midland is chosen then every one in these populated areas of Goa has to catch a train, to reach station which will have to travel at least from 20 to 50 kms, by road that it will be an additional expense and additional income to the Road Transport; although some of those who were appearing at the time of inspection have stated that they have their own cars but when questioned agreed that every one in Goa does not have a car. Therefore, it could not be doubted and disputed that this alignment would be most useful for common men's traffic so far as the passenger traffic is concerned and also for transshipment of goods.

As regards the environment impact as discussed earlier, the effect of Railway on air and sound would be much less as compared to an impact that our motor vehicles, trucks and buses have on air and sound. Under these circumstances, therefore, so far as the service which will be rendered by the Railway is concerned, it could not be doubted that the present alignment is the best alignment. It is also to be noticed that although NATPAC had not suggested a new track nor surveyed it but, Mr. Menezes and RITES have considered and examined alternative routes from points of view of cost use and problems and all of them have consistently come to the conclusion that cost wise this will be the best route which has now been approved. It also clearly emerges from all the reports that the other possibilities from the Hinterland or Midland the problem of mining mineral loading points, forests, cashew plantation and even the irrigation project may arise. Looking to all these circumstances, cost, convenience and minimum damage to environment and forests the present route appears to be the best and the only route. In addition, the money already spent on the work done so far also is a consideration. It is in this context that this will be the best available alignment which has been selected, which has been approved by the Government of Goa after considering it on number of occasions and introducing slight modifications here and there as this is the best. Now we will try to consider the problems that have been raised and which, in my opinion, do deserve a serious consideration.

1. The problem of Khazan lands passage of water and also passage of boats through creeks.

2. Heritage site near the old church, old chapel on the hill, the Railway Alignment passes distance of about 150 metres and on the other side of the hill a tunnel is being dug through which the Railway train will pass and that also is a problem which was posed and it was suggested that it may endanger the chapel.

Then this line passes near that old chapel on the hill it passes through Carambolim Lake and after going through this lake it reaches the spot where it enters the tunnel and this it was suggested will disturb the birds that come and also the environment.

3. Then there is some problem on the Diwar Island, where it was suggested that the

embankments are higher than 10 metres and viaducts may be considered to reduce the amount of earth work and consequent cutting of hills. It was also suggested that on this island this track also passes through the Khazan lands and that the question of flow of water also is significant. It was also suggested that on this island for earth work one hillock has been cut but no precaution has been taken which may result in landslide and which may be also disturb the ecology of the place. On this Zuari approaches viaducts may be considered as it was suggested that embankments are higher than 10 metres for the same reasons as in the Diwar Island and that will cause a lot of damage for earth work.

4. When it passes through the habitated area, i.e some of the villages, it is alleged that the Railway lines will divide the populated portion and in that event a danger will be to the population crossing from one side to another.

(i) Khazan Lands. As it has appeared from the evidence of Mr Rajaram that although through Khazan Lands the total length of the track is about 21 kms, but in fact mostly it passes on one side. It is only for a distance of 4.5 kms, that is passes across the Khazan Lands and for this area it has been pointed out that enough arrangements will be made for water passage. At the time of inspection it was pointed out and it was also made a ground by most of the persons who were raising objections about the Khazan and also some of the experts pointed out that at present some pipes are laid for the water flow and earth work is being done on either side. But at some places these pipes have in fact sank but when Mr Rajaram was questioned about it he made it clear that the pipes have been placed only so that for earth work the truck may pass over them for bringing the earth. But in fact he plainly stated that according to the plan these pipes will be fitted on a foundation and proper arrangement will be made when there is no possibility of their sinking and it will be taken care of that no water stagnation takes place at any place.

Similarly, it was alleged that wherever there are creeks not only that water flows through them but small fishing boats also pass and, therefore, it was contended that by such arrangements, it may not be possible for these boats to pass through, therefore, we considered the matter seriously in consultation with the experts and came to the conclusion that adequate arrangement for flow of water will be made when fittings of the pipe are properly done wherever it passes through creeks it will only be bridged in a manner in which the passing of boats will be possible beneath those bridges. It is further suggested that in all these cases where the line passes through the Khazan Lands where paddy fields and fishing operations take place. If necessary, even more water flow arrangement and bridges on the creeks to facilitate the movement will be done and, if there is any Panchayat making any suggestion about a bridge or the clear flow of water that will be considered on the spot by the engineers concerned. These safe-guards, in my opinion, therefore, will make sure for the short span of about 4.5 kms, where the track cross the Khazan area that the flow of water and the movements of small boats will be secured. It is also clear that out of the total lands acquired for the Railway, the land acquired in the Khazan area is very little percentage and the benefits which this railway line is going to confer, small percentage of land will not be of great consequence. It is also noticed that those who are cultivating have not raised very serious objection and the proceedings for compensation and acquisition have gone on. Under these circumstances, therefore, with these safeguards and guarantee the problem of passing through Khazan will be taken care of. There is one more suggestion which was made again and again that when it pass through Khazan lands because there may be a water stagnation it may reduce the saline percentage of water which may result in mosquitoes breeding and presence of mosquitoes may bring Japanese Encephalitis. As it is indicated above, the water flow arrangement will be so made that there is no possibility of any stagnation and the sluice gate which the

agriculturists have made on their bunds will all be maintained and will not be affected at all, therefore, the possibility of stagnation and the consequent danger does not arise. Under these circumstances, these safe-guards suggested by me shall be followed and as I indicated wherever the local Panchayat suggests any small bridge or clear flow of water that will be considered by the engineers on the spot.

(ii) Another interesting question which has been raised and which really deserves a serious consideration is an old chapel standing on a hillock although in a very bad condition not properly maintained and it is also clearly stated by Mr. Ribeiro that it is also not a notified archaeology monument, but it cannot be doubted that it is an old chapel and with the chapel the feelings and sentiments of people no doubt are attached. It is about 150 metres away from this chapel, this Railway line passes. There are two things which are inter-connected just where it passes near this chapel a little away from there it also passes through Carambolim lake and the objection was that this lake also has birds coming there and passing of this train will cause a damage to the coming of birds. This line in fact passes through one side of the Carambolim lake and it is stated that the Forest Department Wild Life Section have considered the question of birds and on that basis has given a clearance that the line should pass through that edge which is on West bank of Carambolim lake. After passing through this edge of the Carambolim lake it goes and enters a tunnel and it is this tunnel which is 150 metres away from the old chapel on the hillock. During the construction of the tunnel it was reported that precautions are being taken to see that no blasting is done as blasting may result in vibrations. We, therefore, considered this aspect of the matter. My Secretary, Mr K.P.Singh, who is also an engineer and could be said to be an expert in this aspect of the matter was with me and we tried to see how far this Railway line could be shifted so that it may be as far away from this old chapel as possible. After going through the area and examining the matter we found that if it is shifted more than it will pass through another settlement where number of houses may be damaged, or may have to be acquired and will create yet another problem.

We, therefore, after examining all that came to the conclusion that even if necessary by giving a little curve and by fixing the speed limit of the trains in that area it should be kept as far away from the chapel. After consideration of all facts it was suggested that it could be shifted for about 50 metres further by providing a curve and not disturbing a settlement which comes next. Therefore, after seriously considering the whole question, I suggest that this Railway line should be shifted away as it is at a distance of 150 metres today, it may be shifted a little more as far as possible within the land available with the Konkan Railway Corporation without disturbing the settlements which are near about and even if necessary by giving a curve and fixing the speed limit, fixing of speed limit will safe-guard two things that if there is a sharp curve - fast trains cannot move there. In addition, to that limit on the speed will also control the vibrations. The tunnel should be so constructed and I would like to further suggest that in the construction of the tunnel the safe-guards could be provided as I learn that there are two ways to provide those safe-guards either by having a double wall tunnel or havig sand padding around the tunnel wall, so that the vibrations may be absorbed whichever of the two be considered suitable by the engineers, in my opinion, should be followed. Under these circumstances, therefore, this problem of old chapel could be satisfactorily solved.

Another part of this question is retrievable Archaeological area. The Railway line passes near the Mandovi-I bridge, it passes through a retrievable archaeological area and this was inspected on 8th July, 1993.

During the inspection on 8th July, 1993, Mr. P. Noronha had shown a 1910 map of Old Goa showing places of archaeological importance. He also pointed out that there is

an area of archaeological importance just at the site of South abutment of bridge over Mandovi (South Channel). He stated that it was probable that at this site archaeological remains could be retrieved, if the area is excavated in future and that construction of the bridge with the abutments would permanently prevent any excavation in this area for retrieving archaeological remains.

The Southern embankment of this bridge has already been constructed. Open foundations were provided after excavation for a depth of about 2.8 metres. The size of the foundation pit was 6.75 metres x 7.9 metres. The soil strata encountered while excavating was hard laterite rock having high content of iron and pneumatic tools had to be used for excavation. Nothing unusual was noticed at the abutment site during excavation of foundations indicating any presence of items of archaeological importance. The hard rock is available at a very shallow depth near and around the abutments. The site except for the portion of abutment is not constructed upon the hence is free for any future archaeological exploration.

As regards Diwar Island, having inspected the spot and considered the whole matter we discussed with the engineers of the Konkan Railway Corporation who were present on the spot having considered the matter we are of the view that so far as the earth work when it passes through Khazan is concerned the safe-guards that we have suggested for the other part of the Khazan area earlier will also be applicable here and all precautions will be taken so that no flow of water is stopped at any point nor any sluicegate which the paddy cultivators maintain is affected in any manner. In fact, and if any creeks are there the appropriate arrangement for passing of small fishing boats also will be maintained. It was also considered that a hillock was out for the purposes of earth work and in fact it was reported that the work has been suspended for the time being so that after the bridge is constructed for the earth work the earth could be brought from other side as on that island except the hillock which has partially been cut there is no other earth available and that is why they are waiting till bridge is completed so that the earth from other end could be brought in and the hillock may not be chopped off completely. When we inspected the hill where the earth has been removed partially from that hill, it is no doubt true that proper tapering and surfacing has not been done which may result in some landslide. I, therefore, suggest that appropriate earth work surfacing or tapering will be done where from the earth has been taken away from the hillock and nothing further will be done to damage that hillock so that the eco-system is not disturbed materially. At the same time we have also suggested when we inspected the spot that wherever necessary and it was suggested that it is planned that the line passes across the road there will be an over or under bridge so that there will be no obstruction to the road and proper arrangement will be made.

I will also suggest that on this Island wherever embankments higher than 10 metres are needed viaducts may be constructed to reduce the amount of earth work and consequent cutting of hills. Here, I may also like to state that on the Zuari approaches also viaducts may be constructed so that huge embankments will not require huge quantity of earth work as the embankments are expected to be ten metres or more.

(iv) Then we come to the problem of settlements through which the Railway train passes. It is reported that mainly the villages affected are Seraulim, Majorda and some other villages where the Railway line passes through these villages; although precautions have been taken that no houses are damaged and it is reported that only few houses have been acquired; although the persons whose house or houses have been acquired had not much grievances but the precautions that are necessary for this area I would like to clearly lay down because when the population is on two sides or it is so near that people have to cross the lane again and again the saf-eguard ought to be provided. For this reason, I would

suggest that all such places which I have mentioned below, the fencing will be done at the two sides.

Moreover, necessary over-bridge or under-bridge shall be provided and where over-bridge or under-bridge is not necessary at least wherever the population has to cross over the line a foot-over-bridge may be provided. The villages which deserve the consideration of these facilities are Utorda, Majorda, Calata, Nuvem, Betalbatim, Seraulim, Cuncolim and Margao. These villages we considered because we have inspected the spot and I suggest that the area where it is absolutely necessary fencing maybe provided and if it is a place where the school children may pass through, it is thought necessary even a walled fencing or such a fencing where crossing through the wires may not be possible should be provided. It is also indicated that wherever feasible an over-bridge or under-bridge be provided and where it is necessary a foot-over-bridge could be provided so that the people may not have to pass through the level crossing when the population has to pass from one side to another of and on. Here, I will suggest that the Railway Engineers in consultation with the experts of the Railway Ministry will look after these aspect of the matter.

In the end I will like to mention that Mr Rajaram, who was the Chief Engineer of the Konkan Railway in this Sector and Mr. Salelkar, who is the Adviser to the Konkan Railway are very cooperative and whenever I wanted any material or expertise the date they always made it available to me and were always available whenever needed. When Mr. Rajaram was examined and the questions which the respective parties suggested were put to him also indicated not only that he is a very competent person but also the fact that he was always co-operative and conducive and was prepared to consider any problem or objection which ever was available. I will also like to thank the Ministry of Railways for having provided the services of Mr. K.P. Singh as the Secretary as Mr. Singh who happens to be a Civil Engineer and having long experience of Railway construction, was very useful for consultation and suggestions whenever I wanted to look into these problems and have been useful in finalising the suggestions i.e. technical know how.

In the end I wish and hope that the people of Goa will welcome this and the Konkan Railway Corporation will be in a position to complete the project as early as possible because I am confident that once the project is completed and people of Goa start receiving the benefit of service by this very useful project they will feel happy and they may also feel that their misunderstanding was responsible for creating delay. I also want to express and convey my thanks and good wishes to all the people who participated in the hearings co-operated with me and even without bothering about the behaviour of some, I wish even them the happy future and I also hope that after seeing the benefits of the project they will work for the betterment of the people of Goa.

Sd/-
(G J OZA)
Retd Judge,
Supreme Court of India,
CHAIRMAN,
HIGH LEVEL COMMITTEE ON KONKAN RAILWAY ALIGNMENT IN GOA
(MAYEM - BALI)

GOA FOUNDATION PUBLICATIONS

1. Sand Mining, Beach Resorts and the Destruction of the Sand Dune System (1989).
2. Report of the Task Force on Safety in Hazardous Industries in Goa (1989).
3. The Environment Protection Act, 1986 and Rules.
4. The Water Pollution Control Act, 1974 and Rules.
5. The Air Pollution Control Act, 1981 and Rules.
6. Sand Extraction: Case History and Final Judgement.
7. The Right to Know (Judgements).
8. Report of the Kamala Choudhury Committee on Konkan Railway.
9. Report of the Advisory Committee on Feasibility of Setting up a Free Port.
10. Unwanted Guest: Report of the House Committee on Nylon 6,6.